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ABSTRACT

This study is the 11th and last report from the Reading-to-Write Project, a collaborative study of students' cognitive processes at one critical point of entry into academic performance. The report consists of an Introduction and seven essays, each of which discusses ways to teach a variety of aspects of reading and writing which have been tried out in classrooms or are the result of experimental research, and each of which begins with a self-analysis technique or assignment that teachers can use to introduce students to new concepts and strategies. Each essay includes samples of student responses, suggests diverse ways in which new concepts can be introduced in the context of students' own responses, provides a rationale for teachers and students explaining how each particular concept is important, and concludes with a list of suggested readings. Essays and their authors include: (1) The Interactive Nature of the Reading Process (Kathleen McCormick); (2) Repertoire: Matching What's in Your Mind to What's in the Text (Margaret J. Kantz); (3) Reading for More Than Information: Helping Students Move Beyond Content Reading (Christina Haas); (4) A Sequence for Interacting Prior Knowledge with Information from Sources (John Ackerman); (5) Reading to Develop a Thesis (Lorraine Higgins); (6) Moving from Sentence-Level to Whole-Text Revision: Helping Writers Focus on the Reader's Needs (Karen A. Schriver); and (7) Images of Academic Discourse: Expanding Our Students' Perceptions (Jennie Nelson). The Reading-to-Write Project references list concludes the document. (RS)

CENTER FOR THE STUDY OF WRITING

Technical Report No. 30

EXPANDING THE REPERTOIRE: AN ANTHOLOGY OF PRACTICAL APPROACHES FOR THE TEACHING OF WRITING

(Reading-to-Write Report No. 11)

Kathleen McCormick *et al.*

May, 1989

An overview of the Study to which this Report refers can be found in CSW Technical Report No. 21, *Studying Cognition in Context: Introduction to the Study.*

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CENTER FOR THE STUDY OF WRITING

Preface to the Reading-to-Write Reports

> So I'm just gonna--I don't care, I'm just going to interpret them the only way I can interpret them. . . . Let's just put what the authors agreed on. *Authors agree* -- We'll just -- If at least two of them concur, we'll say they agree. *Authors in general agree that.* . . . But then they don't agree -- There's nothing you can say about this. . . .
>
> Can I leave it at that. . . . Oh give me a break, I don't know what I'm doing. I'm only a freshman. I have no idea what to do.
>
> Darlene, a first-semester freshman

Darlene's college assignment asked for synthesis and interpretation. The paper she turned in--a short, simplistic review of material from her sources--failed to meet her own expectations and her readers'. And yet, a chance to look at the process behind this unsophisticated product revealed serious thinking, a complicated, if confused, decision process, and a trail of unused abilities and discarded ideas--an active encounter with academic discourse that her teacher would never see.

The study presented here takes an unusually comprehensive look at one critical point of entry into academic performance. It shows a group of freshmen in the transition into the academic discourse of college, looking at the ways in which they interpret and negotiate an assignment that calls for reading to write. On such tasks, students are reading in order to create a *text* of their own, trying to integrate information from sources with *ideas* of their own, and attempting to do so under the guidance of a *purpose* they must themselves create. Because these reading-to-write tasks ask students to integrate reading, writing, and rhetorical purpose, they open a door to critical literacy. Yet this same interaction often makes reading-to-write a difficult process for students to learn and to manage.

In order to get a rounded picture of cognition in this academic context, the study looks at the thinking processes of these students from a number of perspectives, drawing on think-aloud protocols of students writing and revising, on interviews with and self-analyses by the students, and on comparisons of teachers' and students' perceptions of texts the students wrote. It attempts to place these observations within a broader contextual analysis of the situation as students saw it and the social and cultural assumptions about schooling they brought with them.

What this study revealed were some radical differences in how individual students represent an academic writing task to themselves--differences which teachers might interpret as a simple indication of a student's ability rather than a student's interpretation of the task. The students were often unaware that such alternative representations existed or that they might hold such significance. Some images of the task, for instance, such as those dominated by the goals of comprehension, summary, and simple response, offered little or no place for critical response, original synthesis, or interpretation for a rhetorical purpose.

The reading-to-write task students imagined for themselves also had a direct effect on performance: it affected the goals they set, the strategies they used, and the

ways they solved problems during composing. And it led to differences in teachers' evaluations of the texts--although, this study suggested, these evaluations may confuse the conventions of organization (e.g., use of topic sentences) with the writer's control of ideas. When students began to examine their options and attempt the more demanding task of interpreting for a purpose, certain students, whom we called the Intenders, showed important changes in their writing and thinking process. These changes, however, were not evident in the text and nor apparent to teachers. Finally, this study showed how students' images of the task were rooted in the students' histories, the context of schooling, and cultural assumptions about writing which they brought to college.

It is not surprising to find that some of the images students bring with them are at odds with the expectations they encounter at a university. However, when the expectations for "college-level" discourse are presented in oblique and indirect ways, the transition students face may be a *masked* transition. That is, the task has changed, but for a number of reasons, the magnitude and real nature of this change may not be apparent to students, even as they fail to meet the university's expectations.

One of the key implications of this study is that reading-to-write is a task with more faces and a process with more demands than we have realized. We see students thinking hard and doing smart things, even when they misgauge their goals or their written text fails to meet certain standards. This close survey of the cognitive and social landscape of reading-to-write in a college class gives one added respect for the students in this transition and for the complexity and sophistication of the "freshman" task as they face it.

The Reading-to-Write Project was carried out as a collaborative effort at the Center for the Study of Writing, at Carnegie Mellon. We designed the study to create a range of alternative perspectives on the process of reading-to-write and on the way cognition is shaped by the social context of school. The following technical reports present the design and collaborative history of the study; analyses of the cognitive processes we observed, of the texts, and of students' perceptions of both; and a set of conclusions, from different theoretical perspectives, on how students manage this entry into academic discourse:

Reading-to-Write Report 1. (CSW Tech. Report 21) — **Studying Cognition in Context: Introduction to the Study. Linda Flower**

Reading-to-write is an act of critical literacy central to much of academic discourse. This project, divided into an Exploratory Study and a Teaching Study, examines the cognitive processes of reading-to-write as they are embedded in the social context of a college course.

Reading-to-Write Report 2. (CSW Tech. Report 6) — **The Role of Task Representation in Reading-to-Write. Linda Flower**

The different ways in which students represented a "standard" reading-to-write task to themselves led to marked differences in students' goals and strategies as well as their organizing plans. This raised questions about the costs and benefits of these alternative representations and about students' metacognitive control of their own reading and writing processes.

Reading-to-Write Report 3. (CSW Tech. Report 22)

Promises of Coherence, Weak Content, and Strong Organization: An Analysis of the Student Texts.
Margaret J. Kantz

Analysis of students' Organizing Plans (including free response, summary, review and comment, synthesis, and interpretation for a rhetorical purpose) also revealed a hybrid plan in which certain coherence conventions gave the promise of synthesis while the paper's substance reflected a simpler review and comment strategy. Both students and teachers, it appeared, may sometimes confuse coherence strategies (for text) with knowledge transformation strategies (for content).

Reading-to-Write Report 4. (CSW Tech. Report 23)

Students' Self-Analyses and Judges' Perceptions: Where Do They Agree?
John Ackerman

Any writing assignment is a negotiation between a teacher's expectations and a student's representation of the task. Students' Self-Analysis Checklists showed a strong shift in perception for students in the experimental training condition, but a tellingly low agreement with judges' perceptions of the texts.

Reading-to-Write Report 5. (CSW Tech. Report 24)

Exploring the Cognition of Reading-to-Write.
Victoria Stein.

A comparison of the protocols of 36 students showed differences in ways students monitored their comprehension, elaborated, structured the reading and planned their texts. A study of these patterns of cognition and case studies of selected students revealed both some successful and some problematic strategies students brought to this reading-to-write task.

Reading-to-Write Report 6. (CSW Tech. Report 25)

Elaboration: Using What You Know.
Victoria Stein

The process of elaboration allowed students to use prior knowledge not only for comprehension and critical thinking, but also for structuring and planning their papers. However, much of this valuable thinking failed to be transferred into students' papers.

Reading-to-Write Report 7. (CSW Tech. Report 26)

The Effects of Prompts Upon Revision: A Glimpse of the Gap between Planning and Performance.
Wayne C. Peck

Students who were introduced to the options of task representation and prompted to attempt the difficult task of "interpreting for a purpose of one's own" on revision were far more likely to change their organizing plan than students prompted merely to revise to "make the text better." However, the protocols also revealed a significant group of students we called "Intenders" who, for various reasons, made plans they were unable to translate into text.

Reading-to-Write Report 8. (CSW Tech. Report 27) — **Translating Context into Action. John Ackerman**

One context for writing is the student's history of schooling including high school assignments and essays Based on protocols, texts, and interviews, this report describes a set of "initial reading strategies" nearly every freshman used to begin the task--strategies that appear to reflect their training in summarization and recitation of information. From this limited and often unexamined starting point, students then had to construct a solution path which either clung to, modified, or rejected this a-rhetorical initial approach to reading and writing.

Reading-to-Write Report 9. (CSW Tech. Report 28) — **The Cultural Imperatives Underlying Cognitive Acts. Kathleen McCormick**

By setting reading-to-write in a broad cultural context we explore some of the cultural imperatives that might underlie particular cognitive acts. Protocols and interviews suggest that three culturally-based attitudes played a role in this task: the desire for closure, a belief in objectivity, and a refusal to write about perceived contradictions.

Reading-to-Write Report 10. (CSW Tech. Report 29) — **Negotiating Academic Discourse. Linda Flower**

Entering an academic discourse community is both a cognitive and social process guided by strategic knowledge, that is, by the goals writers set based on their reading of the context, by the strategies they invoke, and by their awareness of both these processes. As students move from a process based on comprehension and response to a more fully rhetorical, constructive process, they must embed old strategies within new goals, new readings of the rhetorical situation. However, for both social and cognitive reasons, this process of negotiation and change that academic discourse communities expect may not be apparent to many students for whom this becomes a confusing and tacit transition.

Reading-to-Write Report 11. (CSW Tech. Report 30) — **Expanding the Repertoire: An Anthology of Practical Approaches for the Teaching of Writing. Kathleen McCormick *et al.***

One important implication of this entire study is that students themselves should come into the act of examining their own reading and writing processes and becoming more aware of cognitive and cultural implications of their choices. This set of classroom approaches, written by teachers collaborating on a Reading-to-Write course that grew out of this project, introduces students to ways of exploring their assumptions and alternative ways of represent aspects of the task.

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EXPANDING THE REPERTOIRE: AN ANTHOLOGY OF PRACTICAL APPROACHES FOR THE TEACHING OF WRITING

Ed. Kathleen McCormick
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INTRODUCTION

This anthology is a collection of seven essays discussing ways to teach a variety of aspects of reading and writing. Each essay begins with a self-analysis technique or assignment that teachers can use with their students to introduce them to various concepts and strategies that may be new to them--including the concept of the reader's and the text's repertoire, the importance of prior knowledge, ways of reading that account for the text's rhetorical situation, ways of developing a thesis, revising and assessing academic discourse. Each of the tasks we suggest has been tried in our own classrooms, and some are the result of experimental research. All of the assignments come out of the interests of the Carnegie Mellon Center for the Study of Writing in increasing students' cognitive and cultural awareness of their reading and writing processes. Our assumptions behind starting students off with particular self-analysis techniques is that they will learn abstract concepts and strategies much more eff tively if they begin to discover them on their own in a practical situation.

To help teachers use these assignments, we have included in each essay some of our student responses as well as discussions of them. We then suggest diverse ways in which new concepts can be introduced in the context of students' own responses. We provide a rationale for teachers and students explaining how each particular concept we present is an important part of their reading and writing experience. Every discussion concludes with a list of suggested reading.

We have in no way attempted to provide a comprehensive treatment of reading and writing instruction. We have, however, focused on some areas that we feel have either been neglected or poorly treated by traditional reading and writing methodology. The essays are loosely arranged from the specific to the more general, from an emphasis on reading to an emphasis on writing--but all of the essays address the complex problem of what students do when they are reading in order to write. Our approaches are complementary: many focus on the significance of prior knowledge, of the student reader's recognizing the importance of his or her opinions, of the need to take into account the author, other readers, one's own audience, or one's place in continually shifting discourse communities.

These issues are not new, but what is new is the practical ways in which we attempt to teach them by grounding them in the students' own experiences. By learning in many instances to "do research" on themselves, our students join their teachers in the invigorating process of discovery about the nature of reading and writing. We hope that this collection of approaches will stimulate teachers and students alike not just to use our techniques, but to develop techniques of their own that can provide further insight into these complex processes.

THE INTERACTIVE NATURE OF THE READING PROCESS

By

Kathleen McCormick
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ABSTRACT

Researchers in reader- and culture-centered literary theory, in rhetoric, and in cognitive psychology have in various ways investigated the interactive nature of reading by studying what the text contributes and what the reader contributes to the reading situation. This lesson demonstrates to students how their prior knowledge and reading strategies and goals influence the meanings they derive from texts. It introduces students to a number of important concepts: the **linguistic** and **general repertoires** that both readers and text possess; the **matching of repertoires** that occurs between the two; and the reading strategies of **consistency building** and **wandering viewpoint.** Finally, it argues that meaning cannot be said to be objectively contained in texts, but rather occurs in the complex interaction of the reader, the text, and the larger cultural context in which reading occurs.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The Task

As a homework assignment before class, we gave our students the following paragraph by John Bransford and the response statement assignment. Bransford, a reading researcher, constructed this paragraph along with two pictorial illustrations of it with varying degrees of detail in order to study the effects of context knowledge on reading comprehension.

> If the balloons popped the sound wouldn't be able to carry since everything would be too far away from the correct floor. A closed window would also prevent the sound from carrying, since most buildings tend to be well insulated Since the whole operation depends upon a steady flow of electricity, a break in the middle of the wire would also cause problems. Of course, the fellow could shout, but the human voice is not loud enough to carry that far. An additional problem is that a string could break on the instrument. Then there could be no accompaniment to the message. It is clear that the best solution would involve less distance. Then there would be fewer potential problems. With face to face contact, the least number of things could go wrong.

Response Statement Assignment

1. Explain your reaction to this paragraph. Did you find it funny, irritating, confusing, silly, clever, stupid? Be explicit.

2. What kind of strategies did you use to read it: that is, did you reread; did you look for a main idea; did you just skim over it quickly?

3. What assumptions or expectations of yours about sentences and paragraphs does this paragraph violate or confirm?

We divided our students into three groups. The first groups received only the paragraph and the response statement assignment. The second group received the paragraph, the assignment, and a picture (Figure 1), which establishes a partial context for the paragraph. The third group received the paragraph, the assignment, and a picture (Figure 2) that provides a complete context. That is, it gives enough information for readers to understand the paragraph easily. (The paragraph and the picture appear in Bransford and McCarrell's "A Sketch of a Cognitive Approach to Comprehension.")

Student Responses

Before showing the students the various pictures or describing the three different reading situations in which they had been put, we let them discuss their responses in class. Let us look briefly at some of the reactions of students in each of these groups to see what conclusions we might draw from them about the nature of reading. The students in the group that received the paragraph without a picture focused their responses primarily on what they felt to be the poor structure and organization of the paragraph and on their expectations of what a well-written paragraph would be. One student commented, "I find there to be no coherency between the sentences in this paragraph. They are disjointed, creating much confusion for me, and although I can tell that the main idea deals with the travel of sound, I find no thesis statement supporting this." Another student commented that the paragraph is "extremely poor," arguing that there is "no topic sentence, too few transitions between ideas and little unity or cohesion." Still another, trying unsuccessfully to establish a larger context for the paragraph, suggests that "each sentence could be the opening line to a new paragraph." Most of the students in group one, therefore, focused solely on the faulty **text strategies** in their response to the paragraph because they found themselves in a reading situation that gave them no information on how to provide a context for this paragraph. Their analysis remained local and their response largely one of frustration.

The group that received the picture providing a partial context for the paragraph responded quite differently. Rather than focusing solely on the style and strategies of the paragraph, most analyzed the **reading strategies** they used to integrate the picture with the paragraph and thereby **create** a context for the paragraph. Rather than making general criticisms about the paragraph's is being poorly constructed, because this group had some information to go on, they were able to be much more specific about ways in which the paragraph was vague and about how they were able to make sense of it. In other words, because they had *some* information but not all, they were able to represent the reading process as much more interactive than the first group. For example, one student commented:

> While reading, I tried to tie together individual clues to get the big picture. For instance, when the author mentioned a steady flow of electricity and then followed it by saying that that the man could not shout loud enough to convey his message, I was able to infer that the electricity had something to do with amplifying the message.

This student is conscious of the ways in which he actively sought to fill in information that was not provided in order to make inferences about the topic of the paragraph.

Another student also paid close attention to how his own background information helped him to interpret the paragraph. After suggesting that the goal is to "levitate the speaker," a reasonable inference given the partial context picture, the student explained how he knew that a song was to be played and sung.

> The clinchers to my interpretation were the sentences involving "instrument" and "accompaniment." Since music is a major part of my life, I quickly recognized "accompaniment to the message" as the guitar (the instrument) accompaniment to a song.

While students in the "no context" group spent most of their response criticizing the structure and organization of the paragraph and students in the partial context group focused on their reading and interpretive strategies, students who received the full context picture with the paragraph paid little attention to either of these, and primarily just summarized the situation. As one student wrote:

> This paragraph is very easy to understand. The man wants to raise his amplifier to the fourth floor so the woman can hear him sing to her.

Rationale

The students were quite astonished to hear their classmates respond in such diverse ways to the paragraph. We then explained how they had been divided up and showed them the two pictures, posing to them the following ideas:

Now that you have seen this third picture, the paragraph probably makes complete sense to you. When you think about it, this is a rather odd situation. It seems problematic to assert that "this paragraph makes no sense," if, when given a picture along with it, you can easily understand it. Rather than saying the paragraph makes no sense, it might be more accurate to assert that certain readers who possess certain knowledge or skills can make sense of it and that others who don't cannot. In other words, we can't say that the *text itself* is inherently comprehensible or incomprehensible, but rather that comprehensibility is determined by the interaction of the reader and the text and that it seems to be in large part determined by the **interpretive community** of which the reader is a part. Interpretive communities, a notion first introduced by Stanley Fish, can be said to be groups of people who are united by common assumptions and a common knowledge base.

You are always a member of multiple overlapping interpretive communities, but in any particular interpretive situation, such as reading this paragraph on balloons, it is often possible to discover which particular assumptions, knowledge, reading strategies, and goals, that is, which interpretive community is most influencing your reading process. In this case, our class was divided into three interpretive communities, and although reactions to the paragraph differed to some extent within each group, reactions were much more drastically different between groups.

INTRODUCTION OF NEW CONCEPTS

The Nature of Meaning

What deductions can we make about the nature of meaning and the reading process from the fact that the same text, the balloon paragraph, was able to elicit so many different types of responses from readers depending on the amount of information they had about the paragraph? First, we can deduce that *meanings are not objectively contained in texts.* In other words, interpreting a text is not just a matter of

staring at the words long enough for some coherence to manifest itself. What readers supposedly "get out" of a text depends in large part on what they are able to "put into" it, that is, on the kind of knowledge and reading skills readers bring to the text. Thus, different readers will often disagree about what a text "really" means. A text, in many ways, cannot be said to "really" mean any one thing.

It does not follow, however, that just because meanings aren't objectively contained in the text that we could assert that meanings are subjective. It would be difficult for readers to argue, for example, that the balloon paragraph gave directions to their dorm room or apartment. They could assert this, but they probably wouldn't get many visitors, and by doing so, they would isolate themselves from the larger interpretive community of English speaking people who respond to certain text cues and take for granted certain word definitions.

Meaning, therefore, is neither objectively contained in the text nor subjectively contained in the reader: it occurs, rather, as the result of a *complex interaction between the reader and the text*. The reading process is active. Readers bring something and the text brings something. The text does things to readers and they do things to the text. Let us explore in some detail what the text brings and what the reader brings to the reading situation.

What the Text Brings

The text contains **a linguistic repertoire** of **strategies** which includes formal device such as organization, point of view, sentence structure, use of metaphor, etc. One of the strategies of the balloon paragraph that many students in the "no context" situation focused on was its deliberate attempt to avoid establishing a context -- to be vague about how the different components of the situation it was describing fit together.

The text also contains a **general repertoire**. This is, the social, cultural, aesthetic, and technical norms imbedded in or implied by the text. Any text presumes a certain amount of information that it does not make explicit but which is necessary in order to understand it. This information or knowledge is said to be **extra-textual**, that is, outside the text. For example, the repertoire of the balloon paragraph (which is largely implicit) includes a knowledge of balloons, electricity, windows, communication situations, and also the whole context of the man trying to play and sing to the woman.

In addition, the text contains **gaps**, anything that is left unsaid that the reader must fill in. Much of the repertoire required to understand the balloon paragraph is a gap--it is part of the second picture but not part of the text. Other gaps include the issue of why the man is trying to sing to the woman in the first place; why he doesn't take his guitar and walk upstairs to the woman's apartment and sing to her there; whether his action is romantic or tacky. Certain gaps will or will not seem relevant depending on the contexts readers establish when reading. If, for example, readers decide to study this paragraph in the context of courting behavior, the issue of romance becomes important. If they read the paragraph as part of a novel, then the question of motivation becomes important. Thus we see that when talking about what is supposedly "in" the text, we can't avoid the important role of the reader in deciding which textual features are salient. The text contains abstract instructions which the reader must concretize.

What The Reader Brings

Readers, like texts, also have a **linguistic** and a **general repertoire**. Their linguistic repertoire contains reading strategies. Readers read according to certain goals or purposes that *they* themselves establish. If for example, in reading the balloon paragraph, a group of readers decided that their goal was to diagram the sentences, one of their reading strategies might be to group the sentences according to their various patterns, and they would probably pay little attention to whether the paragraph as a whole made sense.

If certain readers felt that their goal was to summarize the paragraph, they might, as did many students in the "no context" group, look to the first and last sentences of the paragraph for a "thesis" and might end up pulling their hair out in frustration! If, in contrast, some readers felt that the paragraph was a challenge to their imagination and that their goal was to use their imagination to supplement incomplete information in the pictures, as many of our students felt in the partial context group, they might try to build up a mental image of the balloons, the building, and the man trying to convey a message, fitting this in, as one student quoted above did, with the expressed need for electricity. In all these instances, we are talking about the same paragraph. But it evokes completely different reading strategies in readers depending upon how they interpret their goals for reading and on how comfortable they are with the amount of information given to them by the text.

Two basic reading strategies that readers frequently employ are **consistency building** and **wandering viewpoint**. As explained by Wolfgang Iser, readers move back and forth between these two strategies during the reading process. When building consistency, readers **place closure on texts**--they decide at certain points in their reading that the text is **about** something. When readers adopt a wandering viewpoint they **open up to the text**: they are willing to take in more information so they can both modify what they think the text is about and transform their expectations of how they think it will develop. Ideally, readers develop a balance between these two reading strategies, though a very difficult text might make it impossible for a reader to build consistency. As one of our students in the "no context" group commented: "I want to put together and understand the various ideas in this paragraph, but I can't." This student is trying to build consistency but is thwarted by the absence of a context for the paragraph.

Readers also bring a **general repertoire** to the text. Their general repertoire can loosely be divided into three areas. The first is their **content knowledge about the subject matter**. To understand the balloon paragraph, readers had to know not only what balloons are, what electricity is, but they also had to know the situation. The most obvious differences among our three groups of students was whether they had the complete context picture in their repertoire when they were reading the paragraph. If the repertoire of the reader thoroughly approximates that of the text, then we can say that a **matching of repertoires** occurs. This situation, as we saw with our third group of readers, often results in comfortable unself-conscious reading.

What students have to say about their reading experiences in this context is often least interesting, however, because they are able to read apparently without questioning or analyzing the text's or their own assumptions. If a matching of the reader's and the text's repertoire fails to occur, however, and the balloon paragraph without the accompanying picture provides an extreme example, then readers know that something is wrong. They can blame the text, as our students did, but often it is the absence of something in their own repertoire of knowledge that is preventing them from understanding the text.

The second aspect of readers' repertoires is their **opinion about the subject matter**. For example, readers concerned with the effects of educational material in developing sex role stereotypes might argue that the balloons paragraph and pictures should not be used in school because it depicts the woman as passive and ineffectual (and possibly as imprisoned in a tower) whereas it depicts the man as actively confronting and overcoming all the obstacles in his path. The significance of readers' opinions is often more obvious when they are reading texts about controversial issues such as apartheid, abortion, or nuclear disarmament that demand they take a stand. But readers' opinions always influence their response to texts and they should be probed and developed in class regardless of the kind of text being read.

The third aspect of readers' repertoires is their **knowledge about and experience with the text's genre**. Readers respond to texts differently and develop different purposes for reading depending on what genre they think the texts are. Most of our students found the ambiguity of the balloon paragraph annoying because they expected it to be a clear, straightforward piece of expository prose. If, however, as we suggested above, the readers were to regard the paragraph as an extract from a novel, they would ask different questions of it and might focus on the ambiguous nature of the man's relationship to the woman as well as the ambiguity of the description itself.

But agreement on a text's genre does not insure uniformity of response to it, and it is the teacher's responsibility to discover the particular reading practices and text characteristics students link with particular genres. For example, many readers will feel that the balloon paragraph should not be analyzed according to the sex role stereotypes it confirms, as was suggested above, and such a position might well be based on assumptions about the text's genre. Readers might argue that because the paragraph is an experimental text rather than, say, an article in a newspaper or an extract from a short story, it should only be evaluated in terms of its experimental effectiveness, not its hidden ideology. Such debates about genre-specific responses need to surface in class and require careful analysis.

Implications of This Lesson

The educational goal of most English courses is to develop students' repertoires. With expanded repertoires, students can interact with more complex textual repertoires; they have an increased number of interpretive options; and they can more fully understand the implications of choosing particular options. Reading is not just something people do to texts. We read each other, our classes, our culture. We are **reading beings** always caught up in situations in which, surrounded by signs and language systems, we have to interpret in order to understand, even to survive. A lesson such as this can introduce students to the need for them to become more powerful and skilled readers and writers.

SUGGESTED READINGS

Bennett, T. (1979). *Marxism and Formalism.* London: Methuen.

Bransford, J. D., & McCarrell, N. S. (1974). A sketch of a cognitive approach to comprehension: Some thoughts about understanding what it means to comprehend. In *Cognition and the symbolic processes* (pp. 189-229). Hillsdale, NJ: Erlbaum.

Eagleton, T. (1983). *Literary theory: An introduction.* Minneapolis: University of Minnesota Press.

Fish, S. (1980). *Is there a text in this class*? Cambridge, MA: Harvard University Press.

Iser, W. (1979). *The act of reading: A theory of aesthetic response.* Baltimore, MD: Johns Hopkins University Press.

McCormick, K., & Waller, G. F., with Flower, L. (1987). *Reading texts.* Lexington, MA: D. C. Heath.

Waller, G., McCormick, K., & Fowler, L. (Eds). (1986). *The Lexington introduction to literature.* Lexington, MA: D. C. Heath.

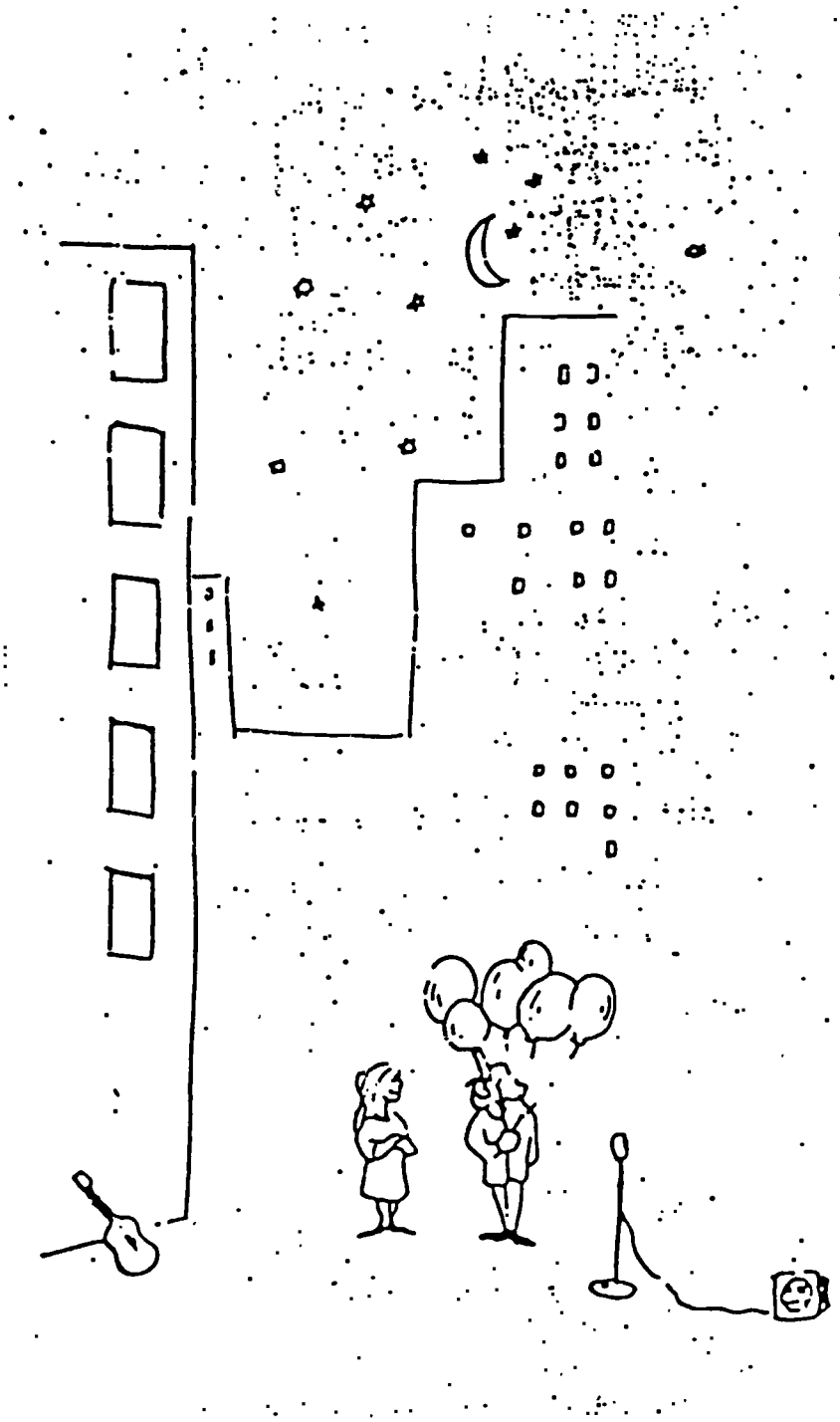

Fig. 1. Partial context for balloon

Bransford, J. D., & McCarrell, N. S. (1974). A sketch of a cognitive approach to comprehension: Some thoughts about understanding what it means to comprehend. In Cognition and the symbolic processes (pp. 189-229). Hillsdale, NJ: Erlbaum.

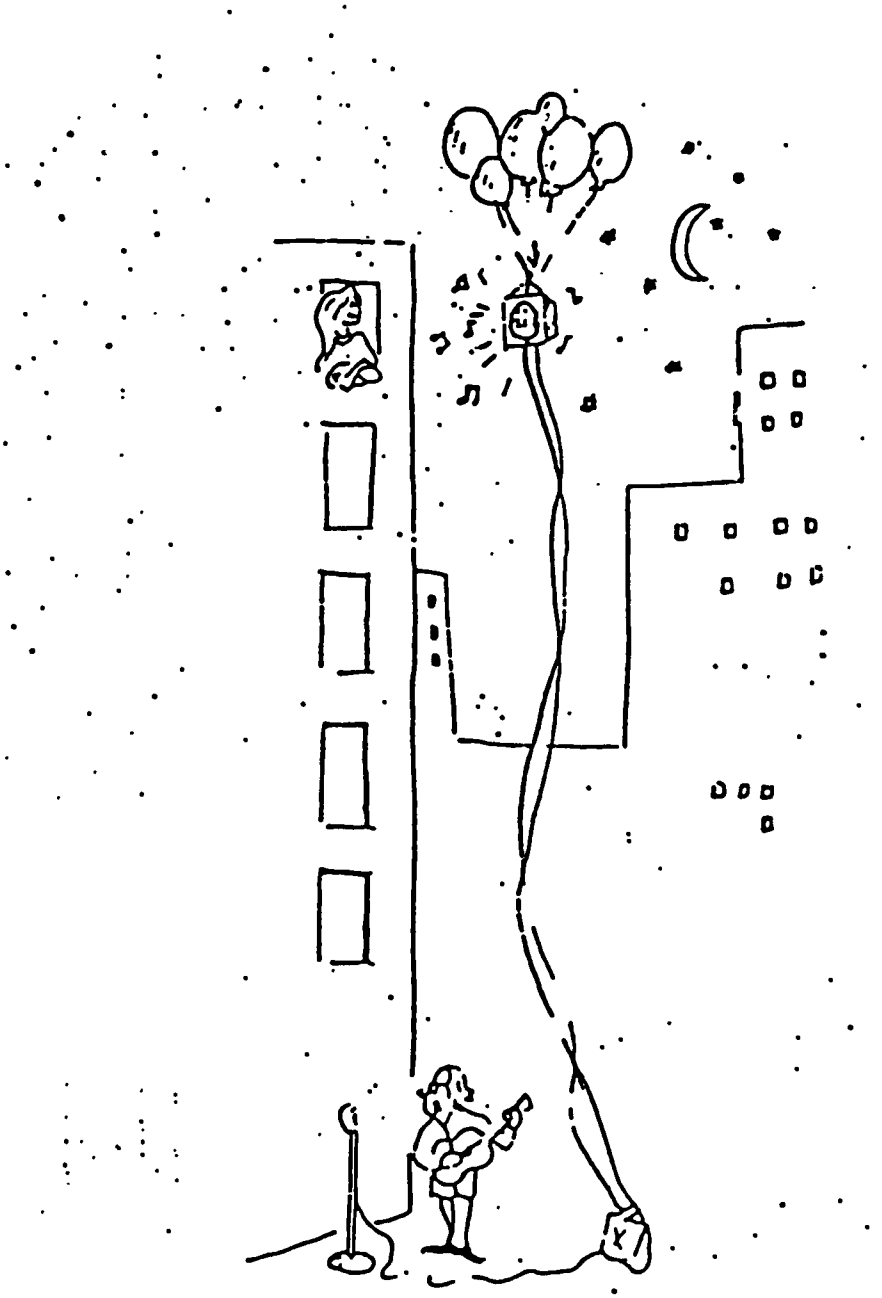

Fig. 2. Appropriate context for balloon passage.

Bransford, J. D. & McCarrell, N. S. (1974). A sketch of a cognitive approach to comprehension: Some thoughts about understanding what it means to comprehend. In Cognition and the symbolic process (pp. 189-229). Hillsdale, NJ: Erlbaum.

REPERTOIRE: MATCHING WHAT'S IN YOUR MIND TO WHAT'S IN THE TEXT

By

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ABSTRACT

This lesson introduces students to the concept of **repertoire**--both the norms, knowledge, strategies, conventions, values, and ideas that texts have embedded within them and also that readers bring to the reading situation. The main purpose of this lesson is to show students that readers interpret texts by matching their repertoire with that of the text and by making inferences about how pieces of repertoire fit together. The assignment asks the students to examine five statements about the meaning of Independence Day and then to decide which of a list of five well-known political personages could have made each statement. The class discussion focuses first on the various strategies and pieces of knowledge that the students used to solve the puzzle. The class then considers what aspects of their repertoires readers used as important clues to the authors of the texts, what inferences they made as they used these clues to decide what each passage "meant," and, finally, what it means to say that we "understand" a text.

Because most students assume that reading is a passive process, the exercise has a secondary and more basic purpose of showing the students that they have active reading strategies, that they construct meaning, and that different readers use different strategies for working on the same texts.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The Task

When giving the assignment, you will probably want to give the students a brief definition of **repertoire** and explain to them that the point of the exercise is to examine the reading strategies that they use to interpret texts. You might also discuss briefly with the class the ideas that texts contain embedded repertoires, that they as readers bring their own repertoires to texts, and that they match their repertoire with that of texts to make judgments about texts.

1. On the next few pages you will find 5 comments about the meaning of this year's Fourth of July celebration. Who do you think wrote each piece? Your choices are:

   a. The Rev. Jesse Jackson
   b. Garrison Keillor
   c. James Michener
   d. Willie Nelson
   e. Gore Vidal

2. Choose one piece whose author you are pretty sure you guessed correctly. Write a paragraph in which you describe your knowledge about this person and explain how your knowledge matches up with things in the piece. If you feel confident about

several identifications, choose the one that you think is the most clever, most subtle guess--the one for which you had to do the most thinking.

3. Choose another piece whose author you couldn't confidently identify. Describe what you can infer about the author from the piece--his point of view, his experiences, the reasons for his stylistic choices. (Note that you're not being asked to justify a guess. You're being asked to construct an image of the author.) If you feel fairly sure of all of your identifications, choose someone (NOT the person you wrote about for #2) whose style gives you a lot to talk about.

VOICES OF LIBERTY[1]

1._____

I've spent most of my life working abroad-in a lot of countries of the world--and wherever I went I'd have some people come to me at night on the street or in a bar and ask, "What are the chances of getting into the United States?" As a social critic, I know most of what's wrong with this country, but the balance is tremendously in our favor. We've put together a pretty strong country. Of all the forms of government in operation today, ours is the oldest. All the others have had to have radical changes, even Great Britain. Sweden changed, China and Russia changed dramatically, all the countries of South America. We've found a way to survive--with our checks and balances--over a long period. As a confirmed liberal who ran for office on the federal level, I find some retreats from liberty today, but I think we'll reach a stable balance. I'm scared to hell of the new patriotism; some very silly things are being done in its name. But we tend to balance out on these things.

2._____

For some, life in America is pretty good, for some it's not so good. Everybody seems to be in a patriotic mood, and that's great. Everybody seems to be thinking pretty positive about everything, and that's good. And I feel good about the way the country's going to finally wind up, but it's not in that great a shape today. I used to think we were pretty smart, and now I think we're not. Like the farm crisis; we wouldn't let things that are going on in this country go on if we were all that sharp. But we can do anything we want if we just want to do it enough. If enough people want things to be OK, then it'll start getting OK.

3._____

I have mixed emotions. There's a personal joy: for me, it has been a journey from slave ship to championship. It's a good personal feeling, yet I can't really eat comfortably if you're starving. None of us can feel good unless all of us have a chance to feel good. The state of liberty in America is greater than any place else in the world, but liberty and justice must be indivisible, and today there is a tremendous focus on Miss Liberty, without her companion, Mr. Justice. The character of Lady Liberty historically hasbeen to be welcoming hostess to the tired, the poor and the huddledmasses. Now they have lifted her face and tried to alter her character by making her the hostess for a party for the elite and the very wealthy. If the huddled masses would have gone to Ellis Island today, they would have been arrested trying to get there. This celebration of opulence and wealth and power undercuts the character of the Statue of Liberty.

4._____

It is marvelously ironic that on the day we celebrate the Statue of Liberty, the statutes of liberty are one by one being struck down by the Supreme Court, which now allows any state to regulate our sexual lives. As the year of the bicentennial of the Constitution approaches, it's time to hold a constitutional convention, in order to restore our system to what it once was, or perhaps to what it ought to be. The problems are no longer cyclic but systemic. Don't think if you elect a nice man--or woman--to the highest office, anything will change.

5._____

The Statue of Liberty was put up in the era of steamship travel. Ships would come in through the strait there, and the immigrants would see her raising her torch. Nowadays, of course, people come into Kennedy airport, and the see the statue only from a holding pattern, I guess. And with the World Trade Towers outstripping it by such a margin, the statue looks pretty small and insignificant. And that's why I think it should be moved. It has been renovated to make it fit for travel, and since the foundation raised so much more money than was necessary, I think they ought to move it out to the Midwest, where it would be something truly spectacular. Iowa, for example, or North Dakota would be a wonderful place Neither has great scenic natural wonders of its own. And if you were driving west on, say Interstate 80 across Iowa, it's very flat and you'd see the statue miles away, and the torch way up there. It would be far more impressive and dazzling to people than there in New York Harbor, where it's overshadowed by all the other attractions. In Iowa or North Dakota it would stand head and shoulders above everything else, and would have its rightful prominence.

As for the celebration in New York, I think they'd have to go a long way to beat the living flag they do in Lake Wobegon every Fourth of July. I think it is a pageant to end all pageants because in order to do a living flag there in the street--people wearing red, white and blue caps and forming the Stars and Stripes with the tops of their heads--you need almost everybody in town. It's not a celebration left to a few people. They put on a parade and run it around the block twice--so you can take turns, being in it one time and then watching it.

Student Responses

When class begins, the students will be most interested in learning the solution to the puzzle. Since getting the right answer is not the point, the lesson will probably have more impact if each statement is discussed at length, perhaps with the teacher listing on the board the various repertoires and inferences that people used to identify the speaker of each passage. During this discussion a "class repertoire" will emerge, consisting of a body of facts and assumptions shared by most of the students (Fish, 1980). Some students will have identified authors by matching allusions in the text to facts in their repertoires; other students will have had to dig more deeply into attitudes, values and assumptions that they share with the text to guess at the authors. Generally speaking, readers use their repertoires as economically as possible: the more difficulty a student has in identifying an author, the more of his repertoire he will probably call into play. The students who used a simple knowledge-matching strategy probably share many of the attitudes and values used by their classmates to do this task.

Students who know something about the authors are likely to rely on their knowledge and to produce relatively few interesting inferences (cf. Harten, 1979). For example, most students will catch the reference in passage #3 to "from slave ship to

citizenship." They will make the inference that the speaker is descended from slaves, look at the list of authors, and correctly choose the Reverend Jesse Jackson--not because they know that none of the other authors fits the category of "descended from slaves," but because they know that Jackson fits this category.

Other students, however, will use more subtle text cues as the basis for their inferences. These students might recognize Jackson's style, for example his characteristic use of the word "opulent," or his figurative language ("tremendous focus on Miss Liberty, without her companion, Mr. Justice"), or his allusions to the civil rights movement ("If the huddled masses would have gone to Ellis Island today, they would have been arrested trying to get there"). Yet both strategies will yield correct author identifications. For passage #2, many students will remember Willie Nelson's involvement with Farm Aid and identify him as the source; but others might identify the speaker of #2 by deciding that it sounds simple and uneducated, and that Nelson is the most uneducated man on the list (!). (Passage #1 is by James Michener; #4 is by Gore Vidal; #5 is by Garrison Keillor.) As these examples show, although people apply different kinds of knowledge to a given text, they can often reach the same interpretation of it.

Many more interesting uses of repertoires will occur, however, when the students make logical inferences about the texts on the basis of incomplete knowledge and "misread" the text. If students who made incorrect guesses are encouraged to explain the reasons underlying their choices, you can show how the process of matching a reader's knowledge to the text produces variant readings, even though the process itself closely resembles the process that produced the correct guesses. For example, a student might identify passage #4 as written by someone with an interest in constitutional history, remember that Gore Vidal wrote *Burr, 1876*, and *Lincoln*, and correctly identify him as the author of #4.. However, here is how another student read #4:

> In quote 4, possibly said by Garrison Keillor, the writer thinks that the Federal Government is [taking] liberty away from the nation's sexual lives. This may mean that Keillor is a homosexual, because most of the new laws concern gays and the A.I.D.S. virus. He would like to see another constitutional convention on the Bicentennial of the Constitution, which indicates that he is extremely upset about this lack of justice. He is also realistic when he states that electing a nice person to the highest office will not necessarily reform anything. This might show his dislike, or at most his apathy, towards Ronald Reagan, a fairly extreme conservatist. [Garrison Keillor] seems to be a Liberal.

This student has worked through the passage sentence by sentence, summarizing the sentence and making inferences about the kind of person who would have the views expressed in each sentence--that the author is a homosexual who cares about social injustice. He has also tried to support his inferences with facts and opinions from his repertoire, such as his awareness of recent legal history. His reading has yielded a much clearer picture of the writer than the simple knowledge-matching strategies illustrated above (e.g , "slave ship" = black man = Jesse Jackson). This student's reading process is a careful and logical one. He seems, however, to have chosen Keillor's name at random; evidently, he knows nothing about Keillor.

It is, of course, not necessary to work with each line of text to make interesting and logical inferences. The writer of the following response seems to have picked out pieces of passage #5 to work with, responding to whatever caught her eye:

> Article number 5 was probably written by the author James Michener. He is an American novelist who writes about the old west and the pioneer days. He wrote such books as *Centennial* and *Texas*. The first clue that he wrote this piece was the way in which he told of [how] the immigrants saw the Statue of Liberty as compared to someone seeing her from an airplane. But the real giveaway happened when he mentioned moving the Statue of Liberty to the Midwest. The way he talked of Iowa and North Dakota made me realize he wrote this piece.

This student has remembered that Michener writes historical novels and has matched that knowledge to an inference that the first two sentences were written by someone interested in history. She knows that at least one of Michener's novels is set in the Midwest, and she has inferred that someone who writes about a region will feel some loyalty to it. She has made another inference that the recommendation to move the Statue was motivated by regional pride, and a further inference that the recommendation was meant seriously. She has, however, entirely missed Keillor's humor; she has not clearly envisioned the "living flag" parade and thus has not realized that it can't be seen, either by the participants or by spectators on the sidewalk. And it's not clear what she means by "the way he talked of Iowa and North Dakota." As this comment also shows, some of the most interesting misidentifications will occur when students correctly match their repertoires with those of the text, make logical deductions about the text, but still miss some of the clues in the text.

This exercise will be most productive in terms of revealing reading strategies when the students are willing to talk about incorrect guesses they have made about the authors. If the class seems to be putting too much emphasis on the correctness of their guesses, you could provide a substitute list of names, e.g., Teddy Kennedy, Johnny Cash, Coretta Scott King, William F. Buckley, and Charles Kurrault, and ask the students to explain how these names to and do not fit the paragraphs.

Students will often tend to equate *repertoire* with factual knowledge. It is important, therefore, to discuss other kinds of repertoire, such as values, assumptions, and norms. For example, this extract from a student response contains a number of unstated assumptions:

> Article number 1 seems to have been written by someone well educated and who has done a lot of traveling. They must have been in some foreign service as an ambassador or someone of high rank in the State Department. This person must have been in politics the way they discuss the forms of government in Europe and telling how they ran for federal office.

It might be interesting to examine the student's inference that the speaker was well educated and that a career abroad meant a career with the State Department.

Rationale

Students often believe that reading is a passive, receptive process. If asked to describe how they read, they will often say that they focus their eyes on the print, move their gaze along to the end of the passage, and wait for meaning to emerge. (A useful preliminary exercise might be to elicit such descriptions from students.) However, as the discussion moves from identification of "correct" authors to comparison and analysis of how the passages were identified, the students will see how actively they read. You will be pointing out (or having the students point out) the basic strategies for using repertoire: identifying something in the text as being relevant, calling up one's own knowledge and beliefs, and making an inference about how they match. The

students will see that although people with different repertoires will read passages differently, they may end up with similar interpretations. On the other hand, misidentifications do not necessarily mean that readers have read poorly. One can use careful, systematic reading strategies that result in much understanding of a text, yet still misidentify the author. In fact, a reader who does a detailed matching of her repertoire to a text, even if she comes up with the "wrong" author, may learn more about it than a reader who easily gets the "right" answer.

There is no one "right" pattern for matching one's knowledge with a text, because how we read depends not only on what we know but also on what we want to learn. Some readers will focus on a key word or phrase; others will work systematically through a text; others will skip around. The "right" way is the way that lets a reader accomplish her purpose. (If you have the students reread the passages to decide whether the authors probably voted for Reagan or not, they will find themselves matching different pieces of knowledge to the texts by means of quite different inferences.) To "understand" a text, then, means more than getting a right answer or a main point. It means having a purpose and reaching a goal--and different purposes may require different repertoires. For example, do we understand passage #3 when we can summarize it, or when we know who said it, or when we know *why* he said it? How does each of these purposes require us to draw on different pieces of knowledge, norms, values? What would we need to know to completely understand statement #4? Under what circumstances could an incorrect identification be just as useful as a correct identification?

Finally, the values that a student applies to a text may reveal as much about the student as they do about the text. The "class repertoire" will tell a great deal about the experiences, interests, and values of the class. We "understand" texts, not because texts have objectively true and eternal meanings, but because we read them in the light of what we know and who we are.

INTRODUCTION OF NEW CONCEPTS

Repertoire

Repertoire means *the social, cultural, and literary norms and values embedded in a text* (Iser, 1978). One aspect of *repertoire* is factual knowledge--the inclusion of references that an author expects his readers to understand. The author of passage #2, Willie Nelson, mentions "the farm crisis" as an example of ways that America is "not in that great a shape today." Clearly, he expects his readers to know what the farm crisis is. He also expects his readers to be able to supply other examples of pressing social problems. But, more fundamentally, *repertoire* also means the *assumptions in a text--assumptions about social patterns, values, expected patterns of behavior*---in fact, all of the patterns of thinking that people share when they live in a given culture. For example, passage #2 embodies cultural values of patriotism, a positive appraisal of Americans' good will and their ability to solve social problems, and a belief in progress. Nelson seems to expect his readers to share these values--as many of them probably do.

By extension, therefore, the concept of *repertoire also means the social, cultural, and literary norms, knowledge, and values within the reader* of a text (McCormick, Waller, & Flower, 1987). A reader who values simplicity will respond differently to Nelson's vocabulary ("good," "pretty," "smart," "OK") than will a reader who values linguistic precision. A reader who thinks about current events in moral and emotional ways ("I feel good about the way the country's going to finally wind up") will respond more favorably to Nelson's passage than will a reader who doesn't believe in progress,

who thinks that American culture is decadent, or who anticipates an imminent nuclear holocaust. People who know a lot about a topic will think about it differently from people who know little (Spilich et al., 1979). Typically, people know and believe much more about a given topic than they can describe; thus, readers may well often apply their repertoire to a text without realizing it. Repertoire, then, includes more than what we can say we know; it includes attitudes and assumptions that may be so ingrained that we may not be aware of them.

Matching

When a reader reads, a *matching of repertoires* occurs (Waller, McCormick, & Fowler, 1986), the reader decides whether or not she understands the text. Research has long since shown that mismatches of reader repertoire with text repertoire often result in misunderstandings of text or in difficulty with the text. When a reader's repertoire matches that of the text, the reader has the easiest time with the text and can understand it thoroughly. For example, Hinze (1961) found that attitude toward key word concepts affects text comprehension, in that readers who had ambivalent attitudes and attitudes in conflict with those of a text had more difficulty interpreting a text than did readers whose attitudes agreed with those in the text. Thus, students with strong political opinions might make different inferences about the quotations than students who are willing to be guided by the text.

Inferences

The *inferences* that readers make about texts will directly affect how they understand the texts. For example, readers might infer about passage #2 that its author, Willie Nelson, is naive, or uneducated, or a good American, or a tactful social critic, or many others things. Inferences are like bridges, with one end based on material in the text and the other end based in the reader's repertoire; like bridges, they make connections. In reading, people use inferences to make connections between what is new (the text) and what is known (the reader's repertoire). Logically, the more closely the repertoire of the text matches that of the reader, the easier a time the reader will have. Because all readers make inferences but the inferences that they make often differ, the process by which inferences are made remains somewhat mysterious. Inferences are shaped by repertoire (Harten, 1979). Some inferences are easier to make than others (Reder, 1979). As the examples of student responses show, readers tend to make only as many inferences as they need to achieve their goal.

Strategies

Strategies are *patterns of decisions that readers make about how to work with a text.* Readers use different strategies for making inferences, such as jumping to conclusions or referring to context, and the success of these strategies can depend on the text (Bruce and Rubin, 1981; Kimmel and Macginitie, 1984). These strategies, however, have not been clearly defined, and little is known about exactly when and why readers use them. Generally speaking, older and better readers use strategies that will let them think about meaning and overall comprehension, while weaker and younger readers focus more on lower-level text problems such as vocabulary (Wagoner, 1983). As the student responses illustrate, readers also use different strategies for choosing the pieces of text to which they will respond. Although research shows that older and better readers use different strategies for selecting text to work with than do younger and weaker readers (Winograd, 1984), little is known about how readers develop their strategies or about how weak readers develop into strong readers. Class discussion about the five passages will probably reveal that some students used powerful, consistent strategies and that others rely on what looks like guesswork. As

the students response to passage #4 showed, a seemingly random guess (that Keillor was the author) can be combined with other, more systematic strategies.

The concept of repertoire is so closely connected with other concepts relating to reading, such as inferencing and reading strategies, that discussing one concept inevitably leads to discussing many concepts, and to a loss of focus. Here it is enough to say that research confirms that people construct meaning as they read and that both the meaning constructed and the way it is constructed depends on who they are.

Implications of This Lesson

By the end of class, students should clearly understand that they use their knowledge and beliefs to interpret texts and that they read texts actively, looking to match the text's repertoire with their own. This knowledge can lead in various directions: to work on contextual reading strategies, to work on more literary kinds of texts, or to work on rhetorical planning when writing a paper. Mastering the concept of repertoire helps students to become more self-aware and more powerful as writers *and* as readers. It creates a basis for teaching students how others read the texts that they write, as well as how they as readers respond to other people's texts.

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[1]*Newsweek*, July 14, 1986, p. 33.

SUGGESTED READINGS

Brown, A. (1975). The development of memory: Knowing, knowing about knowing, and knowing how to know. In H. W. Reese (Ed.), *Advances in child development and behavior* (Vol. 10). New York: Academic Press.

Brown, A. (1978). *Knowing when, where and how to remember: A problem of metacognition.* (Tech. Rep. No. 47). Urbana, IL: University of Illinois, Center for the Study of Reading.

Bruce, B., & Rubin, A. (1981). *Strategies for Controlling Hypothesis Formation in Reading*. Center for the Study of Reading. (Reading Education Report No. 22). Cambridge, MA: Bolt Beranek and Newman.

Fish, S. (1980). How to recognize a poem when you see one. In *Is there a Text in This Class? The authority of interpretive communities* (pp. 211-227). Cambridge, MA: Harvard University Press:

Harten, R. (1977). *Readers' responses to literature in translation: Effects of cultural background on American readers of contemporary Hebrew literature.* Unpublished dissertation. New York: New York University.

Hinze, H. (1961.) The individual's word associations and his interpretation of prose paragraphs. *Journal of General Psychology. 64,* 193-203.

Iser, W. (1978). *The act of reading*. Baltimore: Johns Hopkins University.

Kimmel, S., & Macginitie, W. H. (1984). Identifying children who use a perseverative text processing strategy." *Reading Research Quarterly 19,* 162-172.

McCormick, K., Waller, G., & Flower, L. (1987). *Reading texts*. Lexington: D. C. Heath.

Reder, L. M. (1979). The role of elaborations in memory for prose. *Cognitive Psychology 11,* 221-234.

Spilich, G., Vesonder, G., Chiesi, H., & Voss, J. (1979). Text processing of domain-related information for individuals with high and low domain knowledge. *Journal of Verbal Learning and Verbal Behavior 18,* 275-29[illegible].

Wagoner, S. (1983). Comprehension monitoring: What it is and what we know about It. *Reading Research Quarterly 18,* 28-346.

Waller, G., McCormick, K., & Lois Fowler (Eds.). (1986). *The Lexington introduction to literature.* Lexington: D. C. Heath.

Winograd, P. (1984). Strategic difficulties in summarizing texts. *Reading Research Quarterly 19,* 404-425.

READING FOR MORE THAN INFORMATION: HELPING STUDENTS MOVE BEYOND CONTENT READING

By
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ABSTRACT

Student readers--and indeed student writers--often view texts as bodies of information. In a study of college readers and older more experienced readers, we found that student readers devoted much of their reading effort to content, that is, to "what the text is about." On the other hand, more experienced readers used a variety of strategies, including attention to the rhetorical situation out of which the text arose (Haas and Flower, in press). Given the emphasis placed on content reading and summary writing in typical high school curricula (Applebee, 1984), it is not surprising that many college students focus their attention on content. However, college assignments typically require students to analyze, synthesize, and criticize the texts they read; reading solely for content is no longer sufficient. The purpose of this lesson is to help students see the shortcomings of reading only for content, to introduce them to the concept of diverse "reading strategies," and to present three reading strategies that students can identify and use in their own reading.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The Task

The task consists of three parts: an introspective self-interview on how they have typically thought about "good" readers and about the goals for reading, a read-and-respond exercise in which they begin to see the shortcomings of their conceptions of reading, and a reading/identification exercise which helps them redefine "good" reading. All three of these may be assigned as homework (although a discussion of the interview should come before the other two activities), or the series may be used in a combination of homework and in-class work. The interview can be omitted, but I have found that it makes the reading/identification easier and facilitates class discussion. The "data" from these three short self-analysis techniques provide rich material for class discussion.

Part 1: The interview: As a homework assignment before class, students conduct self-interviews about their reading in high school, and about their conceptions of "good" reading. They tape the interviews, and then take notes from the tape and bring their responses to class.

Directions for Part 1:

Ask yourself the following questions, and answer them as honestly and in as much detail as you can. Bring your written responses to our next class.

1. What kinds of texts did you usually read for your classes in high school? Think particularly of classes other than English--history, political science, biology, chemistry, and others.

2. What was your reason for reading these texts?

3. What were you *expected* to do with the information or knowledge you gained from the texts?

4. What *did* you do with the information or knowledge you gained from the texts?

5. How would you define a "good reader" based on your experiences with reading in high school?

Student Responses

Discussion 1: What is good reading?

I begin by letting students talk briefly about their high school reading experiences. Predictably, students report that most of their high school content-area reading consisted of textbooks, and an occasional article, novel, or non-fictional volume. Typical answers to the second question on their reasons for reading include "to pass the class," "to answer questions if called on," "so I could pass the tests and do the projects," and even "because the teacher assigned it."

Answers to the third and fourth questions--what they were expected to do with the reading and what they in fact did--were often brought up together: "I guess I was expected to remember it, but I didn't;" "We were supposed to apply it to our projects and tests, and that's what I did;" or "We were supposed to know it so we could understand U.S. History. I remember some of the interesting stuff, but I don't understand U.S. History as well as I should, I guess."

We then try to agree on two or three characteristics of a "good reader" based on the students answers to question five, which may include responses like these: "A good reader remembers what he reads;" "A good reader knows lots of words, and knows about what he's reading;" "A good reader get the point of what he reads;" and "A good reader can concentrate, and likes to read." Typically, the focus of the comments is on textual content and information, and students generally agree that "understanding what it says" and "remembering what it's about" are important.

Part 2: The read-and-respond exercise: As a second part of the homework, or as an in-class exercise, students are asked to read and write a short response to the following passage from the preface to *Cognitive Processes in Education* by Sylvia Farnham-Diggory. This exercise should be given after a discussion of "good readers," in which students try to come to consensus on what constitutes good reading.

Directions for Part 2:

Read the following excerpt from a "Mystery Text." When you have finished, write a short interpretation of it, based on what you think a "good reader" would do. Refer to your self-interview if you need to.

But somehow the social muddle persists. Some wonderful children come from appalling homes; some terrible children come from splendid homes. Practice may have a limited relationship to perfection--at least it cannot substitute for talent. Women are not happy when they are required to pretend that a physical function is equivalent to a mental one. Many children teach themselves to read years before they are supposed to be "ready." Many men would not dream of basing their self-esteem on "cave man" prowess. And despite their verbal glibness, teenagers seem to be in a worse mess then ever.

What has gone wrong? Are the psychological principles invalid? Are they too simple for a complex world?

Like the modern world, modern scientific psychology is extremely technical and complex. The application of any particular set of psychological principles to any particular real problem requires a double specialist: a specialist in the scientific area, and a specialist in the real area.

Not many such double specialists exist. The relationship of a child's current behavior to his early home life, for example, is not a simple problem--Sunday Supplement psychology notwithstanding. Many variables must be understood and integrated: special ("critical") periods of brain sensitivity, nutrition, genetic factors, the development of attention and perception, language, time factors (for example, the amount of time that elapses between a baby's action and a mother's smile), and so on. Mastery of these principles is a full-time professional occupation. The professional application of these principles--in, say a day-care center--is also a full-time occupation, and one that is foreign to many laboratory psychologists. Indeed, a laboratory psychologist may not even recognize his pet principles when they are realized in a day care setting.

What is needed is a coming together of real-world and laboratory specialists that will require both better communication and more complete experience.

The purposes of Parts 2 and 3 are to help students begin to see that their essentially content-based "good" reading is in fact rather weak, and to realize that their intuitions about good readers *in situ* often go beyond their definitions of good readers. Therefore, the discussions of Parts 2 and 3 come together, following the completion of Part 3.

Part 3: The reading/identification: In the third activity (to be done as homework or in-class), students read the responses of other readers and try to identify the "good readers," using their earlier definitions formulated by the self-interviews and by the class discussion that followed those interviews.

Directions for Part 3.

Below are 10 responses of several readers as they read the "Mystery Text." Put a check next to the comments you believe came from "good readers" based on the characteristics we discussed in class. Do not check more than six or fewer than four responses as being those of "good readers." Be prepared to talk about *why* you checked the responses you did.

1. I guess this is about children's problems, or social problems.

2. I'm not sure of the main point he's making, but these examples of homes, and practice, and talent, and mental and physical things are part of an introductory paragraph.

3. I wonder if this is from *Ms.*

4. I feel like it's talking about people--children and women and men and teenagers, and problems they have to deal with.

5. The author is trying to say that it's some balance between instinct and surroundings but he's not sure what that balance is

6. It's talking about children coming from different homes, and good children coming from bad homes, and women not being happy.

7. These statements about women and mental and physical abilities, and about men and their "cave man" abilities, I presume are examples of how psychological principles may not hold.

8. I wonder, though, if it's a magazine article, and I wonder if they expected it to be so confusing.

9. I think it is about changing social conditions, like families in which both parents work and changing roles of women.

10. I see now we're going to discuss some of these things that were raised on this introductory paragraph.

Student Responses

Discussion 2: Does our definition of a "good reader" hold up?

The definition of a "good reader" as understanding content, knowing vocabulary, and remembering information begins to fall apart as students try to interpret the Farnham-Diggory piece. They usually voice frustration at their inability to pin down "what the text is about" and they frequently blamed the text--"This is badly written" or "This doesn't make any sense." And as we apply our "good reader" characteristics to

this text, they realize that the definition doesn't seem to account completely for good reading, at least a good reading of this text. They discover that their recall of some details and knowledge of the vocabulary, their ability to roughly paraphrase the text and even "concentration" does not seem to constitute a successful reading.

In trying to apply the definitions of "good" reading to a real reading task, the students begin to realize--although they may not verbalize it--that "good" reading is more than content reading. They are dissatisfied with their reading of the Farnham-Diggory piece, although it usually meets the criteria they established for "good" reading: "knowing the words," identifying and remembering "what it's about."

With the definitions of good reading that we established earlier somewhat undercut, we move to a discussion of the reading/identification exercise. Although their definitions of good readers had generally included only attention to content, students find that they and their classmates often marked the responses about text features (2, 7, 10), author (5, 8), and source (3, 8) as being those of "good readers." I point out that their intuitions about good reading, and their practice of it in reading the Farnham-Diggory piece, don't match up with their definitions of what constitutes "good" reading.

In addition, they discover that almost every response had been marked by someone in the class as being that of a "good reader." While the characteristics of good readers had initially seemed straightforward, they find that it is difficult to identify good readers based on their former definitions. At this point, we begin to discuss some new concepts.

INTRODUCTION OF NEW CONCEPTS

What often distinguishes good readers is the range of skills, or repertoire of strategies, they have to apply to a task. Although we agreed that good readers "get the point" of what they're reading, we didn't say much about *how* they go about doing that. The how of any task--whether it's reading a book or building a house--is the tools or strategies we have to get it done. Just as "building a house" is virtually impossible if we don't have the tools and the know-how to do it, so "getting the point" can be difficult if we don't know what strategies to apply to the task.

Let's look closely at three strategies which readers use and which your students may be able to add to their repertoire of reading strategies.

The Strategy of Reading for Information:

When using this strategy, the reader is focusing on what the text is "about." The reader may try to find a topic for the text, or may paraphrase single sentences. The reader tries to fill out information in the text. In any case, the reader is concerned with the content of the text, and will make comments such as:

> I feel like you're talking about people--children and women and men and teenagers, and problems they have to deal with.
>
> It's talking about children coming from different homes, and good children coming from bad homes, and women not being happy.
>
> I think the whole article is about changing social conditions, like families in which both parents work and changing roles of women.

The Strategy of Identifying Text Features:

Readers using this strategy notice the **function** of parts of the text--that a certain sentence may be an "example," or that two points contrast--or **features** of the text--that a certain paragraph is introductory or concluding, for instance. Function and feature strategies help a reader make sense of the structure of a text, and understand why certain parts follow other parts. Readers using this strategy will make comments such as:

> I see now we're going to discuss some of these things that were raised on this introductory paragraph.
>
> It probably won't list too many examples, except to serve explanatory functions.
>
> These statements about women and mental and physical abilities, and about men and their "cave man" abilities, I presume are examples of how psychological principles may not hold.

The Strategy of Inferring the Rhetorical Situation:

This strategy sets up a **context or situation** for the text. Using these rhetorical reading strategies, readers create a discourse situation: a purposeful writer drawing upon shared values and experiences in order to create an intended effect with a specific audience or group of readers. The rhetorical strategies readers use may focus on the writer's intentions, claims, and assumptions; on the context surrounding the discourse; or on the characteristics and responses of the intended audience. Rhetorical readers are also conscious of their own responses, and whether in fact their responses are those the author intended for readers to have. Readers using rhetorical strategies may make such comments as:

> The author is trying to say that it's some balance between instinct and surroundings but he's not sure what that balance is.
>
> I wonder if this is from *Ms.*
>
> I wonder, though, if it's a magazine article, I wonder if they expected it to be so confusing

In a study with a group of college-age student readers and a group of more experienced older readers, I found that while the "expert" readers used all three strategies, student readers often neglect to use function strategies and rhetorical strategies. They often over-use the content strategy. Further, the readers who seemed to have a wider repertoire of strategies--who used all three strategies--recognized the facts and claims of the text sooner and more successfully than did the readers who relied too heavily on content strategies.

After introducing and discussing these strategies, we look back at the responses in Part 3 which students tried to identify as those of "good" readers. Students see that all three of these reading strategies are represented. I point out one of the reasons that students had difficulty identifying the statements of good readers is that often what distinguishes a poorer reader is not that he or she is doing something different from a better reader--because better readers do content reading too--but that expert readers also do other things in addition to content reading--like looking for text features, and trying to infer the rhetorical situation.

Rationale

This series of exercises builds on students' assumptions about reading--made explicit through the interview and the first discussion--and then moves to reading situations in which those assumptions about good reading begin to fall short. The three strategies introduced in the final section give students articulated and usable definitions for other reading strategies to add to the content-focused reading which may be the only reading strategy with which they are familiar.

Implications

In our research we have found that students' reading is heavily content based; this is understandable given their training and the expectations of many of their teachers. However, as students move into the academic community of the university--and move beyond it to the discourse communities of their professions--reading for information is no longer sufficient. College assignments often require students to read and analyze and even begin to take part in arguments, to reconcile differing viewpoints, and to assign motives and expectations to the writers and readers of texts they both encounter and produce. Lessening students' sole reliance on a content-oriented reading strategy is a first step toward critical reading.

SUGGESTED READINGS

Applebee, A. (1984). *Contexts for learning to write*. Norwood, NJ: Ablex.

Bereiter, C., & Bird, M. (1985). Use of think-aloud in identification and teaching of reading comprehension skills. *Cognition and Instruction, 2* , 131-156.

Farnham-Diggory, S. (1972). *Cognitive processes in education: A psychological preparation for teaching and curriculum development*. New York: Harper and Row.

Flower, L., & Hayes, J. R. (1980). The cognition of discovery: Defining a rhetorical problem. *College Composition and Communication, 31*, 21-32.

Haas, C., & Flower, L. (1988). Rhetorical reading strategies and the construction of meaning. *College Composition and Communication, 39*, 167-183.

Sternglass, M. (1986). Writing based on reading. In B. Peterson (Ed.), *Convergences: Transactions in reading and writing*. Urbana, IL: NCTE.

Scardamalia, M., & Bereiter, C. (1985). Development of strategies in text processing. In H. Mandl, N. Stein, & T. Trabasso (Eds.), *Learning and comprehension of texts*. Hillsdale, NJ.: Erlbaum.

A SEQUENCE FOR INTEGRATING PRIOR KNOWLEDGE WITH INFORMATION FROM SOURCES

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ABSTRACT

Educators concerned with "critical literacy" typically admire "original" interpretations or syntheses of complex material when someone writes from sources. Yet instruction in composing generally ignores how and to what end writers draw upon their personal experience when their goal is to turn varied or even inconsistent data into an original statement. This lesson shows how the common practices of brainstorming, reducing passages to key words, and outlining, can be modified to help students view their prior knowledge not only as appropriate subject matter but also as the source for an organizing principle to guide the early stages of a draft. The lesson begins with a sequence of tasks that augment a reading-to-write assignment. The sequence is followed by a practical definition of "originality," or, in this case, prior knowledge, and a discussion of how prior knowledge differs from explicit information in assigned readings. The lesson concludes with a brief summary of research findings that show how the assignment sequence mirrors many of the strategic moves that accomplished writers make when they draw upon their experience when writing from sources.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The context for this sequence is a "reading-to-write" assignment where a high value is placed on both the mastery of complex and often contradictory reading material and the development of independence from that reading, taking the form of an original written interpretation. "Independence" essentially means that a writer's experience with a topic is not subordinate to text-based ideas or "generic" organizational patterns which work well for summarizing reading but do not aid original interpretation. The following three-exercise sequence can help students become aware of their relevant personal knowledge on an academic topic and help them practice ways to integrate it:

a. brainstorming on a topic
b. applying criteria to isolate "gists" and organizing concepts
c. juxtaposing prior knowledge and text-based ideas.

a. Brainstorming is an established technique first proposed for design teams in the business community who needed to find original solutions to complex, untried problems. It is used for quickly bringing random ideas to the surface--as are its cousin exercises of free association, "freewriting," or even talking through a problem with a friend. Their purpose collectively is to forgo concerns for a final product and concentrate on the accumulation of both related and unrelated ideas. Brainstorming was first proposed for design teams in the business community who needed to find original solutions to complex, untried problems.

The Task

Instructions in brainstorming can come at the beginning of a reading-to-write assignment or after the students have had a chance to familiarize themselves with assigned readings. These instructions should include:

- directions to say (or write) all a student knows on a topic
- definitions and examples of the different episodic (stories and events) and semantic (concepts) information a student may have in their memory
- the suggestion to review related experience chronologically
- the suggestion to dwell upon recent and past events of particular interest

The exercise of comprehensively talking or writing about a topic may be unsettling for students. Typically a student will take no more than 10 to 20 minutes with this task, and the two suggestions to review chronologically and search for noteworthy events--to tell stories--are useful for those students who do not now how or where to begin. Providing examples of the forms ideas take in memory will also help students get started. One basic distinction between ideas in memory is the difference between episodic (stories and events) and semantic knowledge (concepts). For example, a student taking a course in industrial management might be assigned to write a critique and a position statement on "decision making" which entails the analysis of several prominent authorities. A student's experience with decision making could include such episodic knowledge as decisions made in order to get through an average day on campus or the decision to try out for high school track. But it could also include semantic knowledge such as definitions of decision making or problem solving the student has surmised or learned in school. The episodic-semantic distinction is also a useful framework for drawing connections between events and concepts from experience and issues emanating from assigned readings since a given concept might cover both domains.

Student Response

Here is an example of a student talking aloud, brainstorming about his experience on the topic "themewriting." The student began the exercise by reading and taking notes on several "experts" who offered a variety of descriptions and positions on what it means to write themes in school. After reading, the student responded to the prompt "Tell us all you know on the topic."

> "I guess theme writing...I think it generally refers to this way of teaching that they try to pull off in all these freshman courses and high school...to get people to learn stuff...all these different teachers have their own ways of teaching the stuff to the kids...The first real writing I did was in 9th grade. We had this wonderful book called Wordpower...it went through all the conjunctions. I spent a whole year learning grammar and paragraphs and things....10th grade we really started writing English...There was like two books. We had Paragraph Power...linking paragraphs...It worked out pretty well. I guess we always crammed on the last day to get the A....it went over the five paragraph theme, sure it was impersonal...they just told you themes to write on...All this stuff that English teachers tell you, it doesn't help you much if you're going to write a longer paper...you can't like stick your five paragraphs, I mean you can't like stick to one like specific theme...You write a lot of papers, dumb stuff about like

death...I guess a lot of 'em sort of fall into some of these authors description..."

This excerpt is roughly 20% of all that the student recalled in a 10 minute exploration. The student was not coached to review chronologically or work for episodic-semantic distinctions, yet both characteristics appeared. Besides recounting his English classes from the ninth grade on, he noted "ways of teaching the stuff to kids" and "all this stuff that English teachers tell you." Though rough in form and void of labels, these fragments point toward concepts he associated later with his training in writing. The student's exploration concluded with a connection he made between themes written ("a lot of 'em") and "some of the author's descriptions." His brainstorm, then, became a record of remembrances and trial interpretations of his experience, the readings, and connections between the two.

Rationale and Advice

Giving students ways to monitor their experience offers them initial criteria to begin judging and shaping their own thoughts. There are dangers inherent in this approach, however, because too much attention to personal experience could overload some students, making the exercise of finding and limiting ideas more important than the goal to plan a draft. This overload is similar to a student checking out twenty library sources to review when a little discrimination could cut that load in half. The teacher must decide when and to what degree this method of brainstorming is warranted in conjunction with the amount of assigned readings, classroom dynamics, and the amount of time available for generating ideas.

How a student records his or her memory search also must be carefully considered. A tape recording of twenty minutes of brainstorming is time consuming and possibly expensive in that someone must listen to the tape or, better, transcribe each word. In return, however, the student has a complete record of every verbalized thought, the maximum amount of raw material from the exercise. Freewritings, however, can be nearly as inclusive as tape recordings if the student is trained in and can sustain non-critical, fast writing. Notes are obviously a familiar tool for recording memory but yield the least detail. Notes, by nature, collapse memory into key words and phrases, a technique that can override the goal of a wide search for relevant ideas.

b. Criteria must be used to make sense of experience, to give it form. When students are asked to "tell us what they know" on a topic, the volume and quality of their thinking can be surprising--ranging from elaborate stories, opinions and explanations to scant references and allusions. For example, the student introduced above, when asked to talk about "theme writing," roamed for 10 minutes through his entire lineage of English teachers, going grade by grade from his earliest image (9th grade) to the present freshman writing class. As we saw, that student's prior knowledge on themewriting did not present itself neatly packaged, like paragraphs in a text.

The Task

A useful exercise is to treat the product of the brainstorming exercises (notes, freewriting, tapes, and transcripts) as a text, with the same status as the assigned readings. The student in a sense has to explicate that text, which in this case means to draw boundaries around ideas and to begin to ascribe labels to them. To do this, students should address these three questions:

- What is the gist of each idea?
- Is there an organizing concept or one idea that subsumes other ideas?
- How do ideas--gists and organizing concepts--relate to the assignment?
  - the information needs of my audience
  - the genre or type of writing
  - the writer's purpose or goal

Rationale and Advice

These questions begin to impose a hierarchical structure on prior knowledge, making the student's original thinking and the explicit information from the written sources and instructions more compatible. With this goal in mind, forming gists simply means to separating and labelling events and concepts. If a student is working from a transcript or freewriting, this can be done by marking the beginning and end of ideas with a colored pen. The student mentioned above who brainstormed about his knowledge on theme writing produced a transcript filled with recognizable episodic and semantic gists on each grade in high school. He recalled the notions of "passive learning" and the "typical composition class," and vignettes on "cranking out standard papers," along with his review of past classes and teachers. Unfortunately, the student did not consider his experience in terms of discrete ideas which could be applied to his writing plan--even though he was directed to "draw upon his experience" when he wrote from sources. This student needed specific guidance in recognizing and labeling prior knowledge.

The second criterion, to focus original thinking with an organizing concept, presses students to evaluate their ideas, looking for semantic information that encompasses and describes gists. In essence, an organizing concept will function like a paragraph or section topic in the assigned readings, giving shape to otherwise random ideas. The discovery of organizing concepts will be anything but predictable or methodical. For the above student, the idea of a "typical composition class" was later connected with "dutiful students... mindless themes" and stories about 11th and 12 grade "American Lit" class--all of which were subsumed under the notion of the "bad" side of theme writing. This conceptual organization could not be predicted, only chosen later as a workable plan for writing. Clearly, the difference between a gist and an organizing idea can be slim and more a function of what the writer chooses to do with an idea. In this case the student arranged many of his experience-based and text-based ideas under "bad stuff" about theme writing. By doing this, he reorganized his gists and built a dichotomy between the good and bad characteristics of the topic. These bipolar distinction, admittedly commonplace, became major divisions in his first draft.

During or after the act of generating gists and organizing concepts, students should turn their attention back to task requirements: the audience's needs, the type of writing required, and the writer's own goals and purposes. Accomplished writers have shown repeatedly that task and audience considerations help them to filter new information, perhaps dissuading a writer from either generating too much idiosyncratic information or following a notion that is essentially a wild hare. Facing the constraints of an assignment should come after the student has had a chance to explore his ideas. Such knowledge can help forecast whether an idea can function as an organizing concept.

c. The Juxtaposition of a writer's ideas with explicit text-based information is a movement away from exploration and toward a synthesis of ideas and a plan for writing. This step in the assignment sequence assumes that the writer has, at some point, read to summarize the readings, before or after exploring his or her experiences. The product of this initial comprehension is typically a set of notes that reduce the readings to key ideas or an author's main point. These notes may includes elaborations, questions, or qualifications--and like the brainstorming record, the more detail the better.

The Task

Practically, a student compares the "texts" from reading and personal experience to bring some sense of closure and direction to an initial interpretation. Students can physically lay both sets of data along side each other and repeat a variation on the last question (above, "How do ideas relate to the assignment?") to help test the gists and organizing concepts they have isolated thus far:

1. Do any organizing concepts appear to encompass both experience-based and text-based readings?

2. Are there concepts that allow the subordination of text-based ideas to experience or experience-based ideas to the readings?

3. Is there a hierarchy of ideas that meets the information needs of the audience and format or genre requirements?

4. Does this hierarchy fit the writer's overall goals for writing?

Answers to these questions may be written out for analysis or incorporated into plans for writing.

Rationale and Advice

Realistically, this juxtaposition will happen throughout the reading of sources. It is a natural, but generally unexamined, by-product of bringing memory to bear on a reading assignment. Viewing this juxtaposition as an exercise depends on the premise (however artificial) that there are two, equally valued texts, one sponsored by the readings and the other by a writer's prior knowledge. This dichotomy can suggest for a student and a writing class an arena in which to select and reject information to plan a first draft. The exercise of finding a "best fit" for all available information overtly supports originality because the exercise slows the tendency to acquiesce in prearranged text-based information. The juxtaposition of original thinking with outside authorities, however, does not simplify the process of deciding on a practical purpose and ways to begin. Finding a lead sentence, voice, or guiding "angle" remain a challenge for the writer. The juxtaposition scenario nonetheless has clear benefits for the student: it provides both a framework for exploring these issues and the raw material from which to begin. The framework helps to prevent a reader, who will soon write, from reducing text-based information to summary form, from prematurely reaching closure in an interpretation. By delaying closure and giving students time to practice applying a wider range of ideas in a given paper, students have more opportunity to select and arrange, and otherwise privilege their own ideas.

Before leaving the assignment sequence and exploring in more detail the assumptions behind this approach to instruction in reading and writing, attention must be paid to group work and teacher-student interaction. All of the exercises proposed

could be written so that a student works independently. The exercises, however, are better suited for a peer-group environment. Through interaction, students can help each other generate, record, and refine their personal knowledge and should share their thinking with peers or a teacher when facing organizational decisions. In this way students gain practice at building a case for including or rejecting material, drawing attention to the ways in which these decisions were made. Teachers, in turn, can help by reviewing these decisions in conference or after a draft is produced. Students will explore only if they are encouraged to do so and if they are shown that readers respond to a writer's ideas. A useful follow-up exercise is the comparison of two drafts in which a writer's prior knowledge is more or less evident. The comparison can be made either between one writer's first and second drafts or between two writers addressing the same assignment and topic (see below). The comparison will underscore the prominence of original thinking as both a top-level organizer and supportive detail. Students can then be instructed to retrace on their own the discovery and decision process by which they integrated prior knowledge with their assigned readings. Having students recall, retell, and compare how they wrote with others keeps the students' writing at the center of the course and reinforces their resourcefulness.

INTRODUCTION OF NEW CONCEPTS

The original thinking sought in this approach to writing from sources reflects two major assumptions. First, students have extensive prior knowledge that falls within the boundaries of most academic topics, and second, these same students do not habitually search through and apply that knowledge in their writing. Exploratory studies have shown repeatedly that when students write critical essays, reviews, analyses, or research papers, they have relevant experience, but the content of their interpretations is dominated by text-based ideas (cf. Ackerman, 1986). Also, student writers are typically unaware of how to sort and choose data for a first draft. The proposed sequence attempts to build critical awareness of text-based and experience-based thinking, a perspective on composing that posits prior knowledge as an information source separate from explicit information in assigned reading. In practice, this is false since readers must tap their experience to make any sense of a passage. For the purpose of drawing attention to where good interpretations and syntheses come from, however, prior knowledge can theoretically be talked about as distinct from text-based information and can be treated as a separate source of content for a reading-to-write assignment.

The sequence further assumes that the inclusion of prior, personal knowledge will make a draft somehow better. The following comparison of extracts from two papers written by freshman will support that assumption. The papers are first drafts of an assignment to interpret and synthesize a brief collection of authorities on "time management" Students read excerpts from a variety of authorities and were instructed to write a "brief comprehensive statement" on the topic.

#1

Basically, time management is separated into two parts: pacing and planning. According to the experts commenting in this essay, the best work possible is achieved through good time management as well as the ability to produce optimal study conditions. The following experts explain the most important aspect of optimal study conditions and how to achieve that aspect.

Jean Guitton believes that creating the most conducive environment in which to learn is the most important aspect in becoming a success. Creating the proper environment includes being free of distractions such a noise, visitors, and/or other problems at hand.

Though the environment may be created, optimal study conditions may not have been achieved. This problem introduces two aspects: fatigue and concentration. Walter Pauk explains that thinking about concentration can break one's concentration. As children (and some may have as adults),we have all attempted to simply not think for a specific period of time. Even trying to do this, however, defeats the purpose because a we try not to think, we really must think. The same is true of concentration. If we try to concentrate, we will lose the concentration we already had naturally.

Concentration can also be broken by fatigue, however, as William James suggests...

#2

Good time management is vital in learning and professional environments. Unfortunately, while its importance is recognized, few people really go out of their way to use their time wisely. This is especially true of college students.

The college-level workload puts extreme pressures on a student's time. Often, it seems as though there is too much to do and not enough time to do everything that is expected. To escape the time burden students try to do the maximum amount of work in a minimal amount of time.

College students have fallen to many strategies that decrease work time. These strategies include things like - postponing projects, doing writing assignments in one sitting, and allowing only a minimal amount of time for completing a project. While these strategies may decrease the pressure of huge assignments and get the necessary work done, the overall performance of the student is not up to par. Students need to learn better strategies that permit them to not only use their time effectively but to also do their best work. In other words, they need to implement good time-management practices.

Time-Management as explained by Alan Lake consists of planning and decision making. It is important for students to plan...

Issues of language and purpose aside, there are significant differences in how these two college-level writers valued and utilized their own thinking. The first extract is text-dependent in that the paper begins with the focusing idea "time management is separated into two parts..." and continues paragraph by paragraph, listing the main points from each author. The prominence of text-dependent ideas is not offset by the inclusion of a supportive example from the writer's childhood experience (¶ 3).

The second paper begins with what could function as the same sort of generic organizing concept found in the opening sentence of paper #1. The focus quickly shifts, however, to a more local slant, how college-level students manage their time. This angle for the essay balances experiential and text-based ideas, and the organizing concept reflects her immediate experience and subordinates the readings, the reverse of paper #1. The writer of the second paper produced a "talk aloud" transcript while

composing, and in it we can view the decision whereby the student chose a focus and structure for the ensuing draft. She begins by rejecting the generic organizing idea "importance of time management" and turns to what will be her focus on time management in college.

> *...I don't want to say it that way ..I think this is going to be basically about college students since that's what I have the more knowledge about....*

This decision resulted in a kind of text-independence from the assigned readings. In her paper only the list of student strategies that "decrease time" (¶3) and the paraphrase of Alan Lakein are directly taken from the assigned readings.

As stated earlier, the line between ideas from texts and experience is surely a thin one, but the writer's prior knowledge in the paper #2 is much more apparent. Independent raters, judging over 70 of these essays for "organizing plans" (see Report 4, Students' Self-Analyses and Judges' Perceptions: Where Do They Agree?), labeled the first essay "summary + comment" and second essay "interpret with a purpose." Translated, this means the overt rhetorical plan in paper #1 is basically a listing of the key ideas in the readings with personal comments tagged beneath. For the second paper "interpret with a purpose" means that the draft shows "original" organization and a purpose for writing that treats a faithful representation of the readings as a lesser goal.

Research on How Writers Read to Write

The claim that students have relevant experience but do not make use of it when they write from sources is supported by research on how expert and novice writers incorporate prior knowledge. When accomplished writers read, three basic cognitive operations appear: (1) the reduction of reading and experience into gists; (2) the search of a controlling idea to order data; (3) and a test or application of task requirements. These operations are common even though writers represent relevant ideas from texts and experience differently in writing plans. The centrality of these operations appears to transcend even a writer's familiarity and investment in the topic, which is why the operations are the basis for the three tasks in the lesson sequence.

The practice of summarizing by reducing complex material to gists or key terms is inherent in any assignment to "interpret" or "synthesize" and is a natural comprehension strategy for managing complex data. However, when expert and novice writers worked through a reading-to-write task, their gists took different form. The prior knowledge of older, more accomplished writers differs not by the number of ideas but by the depth and breadth of semantic knowledge. Returning to the transcript of a student's brainstorm at the the beginning of this paper, we can recall how that student's semantic knowledge on theme writing consisted partly of a gist, "all this stuff that English teachers tell you" (p. 3). When another, more accomplished writer reviewed relevant experience her semantic topic knowledge appeared to allow her to shift the focus from an excerpt on "5 paragraph essays" to the notion of "process and product." That gist, complete with a label, appeared to trigger a lengthy rumination on the dichotomy between process and product centered pedagogy in contemporary language instruction. The qualitative difference between expert and novice gists does not mean that a freshman's prior knowledge on a given subject is impoverished. It does mean that freshmen writers will have to work more directly at elaborating their stories and concepts since they have had less time to embellish and refine their ideas over time.

Similarly, the organizing concepts actually applied to the writing task differ between experts and novices, as seen in these two examples:

Expert: *The intent of themewriting is to aid writers in expressing their thoughts and sentiments in a way that is both creative and identifiable to the reader.*

Novice: *Themewriting has good and bad points.*

The novice, like the writer of paper #1 above in section 3, chose a "generic" organizing frame, "Themewriting has good and bad points." Expert writers more often avoid these safe but otherwise vacuous generalities, such as "Time Management can be separated into two parts." or "Topic _____ is important for three reasons." because they appear to recognize the empty rhetorical value of a generic lead and because the all-encompassing organizing idea does not automatically promote their own thinking on the topic.

A final characteristic of more-experienced writers is the repeated testing of the information before them. In other words, writers who use their experience ask the questions throughout their invention and drafting episodes. "What have I got to work with?" and "Where am I going with this draft?" They operate as if discovery, the retrieval of events and concepts from memory, sponsors an occasion for reevaluating the writing task. The timing of this reevaluation appears critical. Expert writers turn to task requirements especially when new information rivals previous interpretations, for example when gists merge or when a "terrific angle" in the form of an organizing concept is discovered.

Afterward

If the proposed assignment sequence and brief summary of research findings imply a linear, mechanical, or algorithmic image of how writers compose, they need not. The purpose of this lesson is to build a descriptive frame for encouraging and guiding original thinking in the first moments of a reading-to-write task. The exercises do not guarantee invention or supplant revision. Neither are they an alternative to the authority that accompanies stature within a professional group or expertise resulting from extended practice. The sequence tries to help students conceptualize and value their experience, creating a readiness for the integration of personal knowledge in a college writing task. This readiness is a frame of mind in which a writer both believes his or her experience is relevant to the topic and assignment and has some practical strategies for its inclusion. Finally, this lesson does not propose to make writing from sources any easier, but it does attempt to shift attention away from comfortable summaries, urging students instead to confront their own good ideas on an academic topic.

SUGGESTED READINGS

Ackerman, J. M. (1986). *Reframing: The role of prior knowledge in the process of reading to write.* Unpublished manuscript. Carnegie Mellon, Pittsburgh, Pennsylvania.

Ackerman, J. M. (1989). *Students' self analyses and judges perceptions: Where do they agree?* (Tech. Rep. Ms. No. 2-031-882). Berkeley, CA: Center for the Study of Writing at University of California, Berkeley, and Carnegie Mellon.

Applebee, A. (1984). Writing and reasoning. *Review of Educational Research, 54,* 577-596.

Bransford, J. D. (1979). *Human cognition.* Belmont, CA: Wadsworth.

Brown, A. L. (1985). Metacognition: The development of selective attention strategies for learning from texts. In *Theoretical models and processes of reading.* Newark, DE: International Reading Association.

Brown, A. L. & A. S. Palincsar. (1985). Reciprocal teaching of comprehension strategies: a natural history of one program for enhancing learning. In *Intelligence and cognition in special children: Comparative studies of giftedness, mental retardation and learning disabilities.* New York: Ablex.

Elbow, P. (1981). *Writing with power.* New York: Oxford.

Norman, D. A. (1976). *Memory and attention.* New York: Wiley and Sons, Inc.

Perry, W. G., Jr. (1970). *Forms of intellectual and ethical development in the college years.* New York: Holt, Rinehardt and Winston.

Winograd, P. N. (1984). Strategic difficulties in summarizing texts. *Reading Research Quarterly, 19,* 404-425.

READING TO DEVELOP A THESIS

By

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ABSTRACT

A thesis is *a well supported interpretation a writer formulates in response to some question or problem.* This lesson examines how expert and novice thesis writers represent their reading when the task is to create an argument. I will refer to this process, the way readers represent the knowledge or information they will use to produce their arguments, as text *representation.* "Text" in this sense refers to a reader's "mental text," that is, the body of ideas a reader refers to and processes as he or she reads. I present in this lesson a definition and model of expert text representation for this reading-to-write task. In creating this tutorial for novice thesis writers, I leave the realm of both process and product; I suggest that teachers introduce thesis writing not with a dissection of the final product -- the student's thesis -- nor with instruction in writing procedures (although this needs to be done at some point), but even earlier, when students with a problem or question face a selection of readings they must interpret and use for their own purposes.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

Before hearing the lecture on *Reading to Develop a Thesis* students should be asked to write a short, persuasive essay using and interpreting a given body of "notes" or loosely related facts on a particular topic. Teachers may provide students with any set of related readings or list of loosely related facts on a topic. I provided my students with some "Notes on Time Management," excerpts from the often contradictory advice of time management experts in the fields of business and academia. I asked my students to "read the notes and then write a one to two page persuasive essay to convince 'Suzie Valdez,' a student, to stop pulling all-nighters." I explained that "Suzie hates to write and always waits until the last minute to write her papers for her courses. She knows she'll do it if she has to, but at this point she's exhausted and is coming close to flunking two of her courses." I instructed the students to "develop a thesis -- some well-supported claims or advice you can address to Suzie," and then after writing this thesis, to "underline and number the major claims or advice you gave Suzie in your paper, then, on a separate sheet of paper recall as well as you can where each claim came from and why and how you decided to include each claim as you interpreted the passages."

The purpose of this initial writing task is to acquaint students with the task of reading to develop a thesis, a task with which they may already have some experience, and to get them thinking about the kinds of ideas and decisions that come into play as they read to construct claims; that is, to make salient for students the ways in which they represent the mental text they create as they read. From my experience with this assignment, and from my analyses of novice protocols collected in my own exploratory reading to interpret study (in progress), I have come to expect that novice writers' text representations are very limited. When pressed to tell where their claims come from, most students will happily report, "why, from the experts (what they read) of course." Although students have a wealth of knowledge they can and should use, (in this case

their own school /study experiences), they will rarely reply that they use that knowledge to develop claims or to evaluate and select claims from the sources they read. In addition, rarely will students report that their claims were constructed in response to Suzie's condition, in response to the particular audience and problem assigned, what Lloyd Bitzer refers to as the "rhetorical situation." In summary, one should expect that for the most part, students' text representations will be very text-based and will not utilize "extra-textual" ideas -- ideas from their own knowledge base and from the rhetorical situation.

INTRODUCTION OF NEW CONCEPTS: THE *Reading to Develop a Thesis* LECTURE

What Kinds of Ideas do Writers Use?

At the start of the lecture, I ask students to review their self-analyses to answer the following questions:

What kinds of ideas do I use as I read to develop a thesis? Do I use my own ideas? Why/How so? Do I use the expert advice from my reading? Why/How so? Is there any other information I take into consideration as I read to develop my claims? If so, where does that information come from?

After the students answer these questions, I provide them with the text of an expert writer who had carried out the same time management writing task. I then present to students protocol excerpts of this expert writer carrying out the assignment. The purpose of looking at these excerpts is to trace the thoughts of the successful writer as she read through the passages on time management and to ascertain what kinds of ideas and sources the expert writer referred to as she developed those claims. Students will then be able to see the extensive representation of the expert writer and note that she often uses her own ideas to evaluate the experts' claims or to formulate claims of her own. In addition, the claims she makes are always formulated with Suzie's situation in mind. Thus, the expert writer's claims are constructed by using and integrating three different sources -- not just ideas taken from the experts on time management. The goal here is to get students to realize the limitations of their own text-based representations, and to encourage them to consider a more extended representation of the text they create as they read.

Students are provided with a handout (Appendix I), the time management passages. Each line is numbered so that the student can follow the reading of the expert writer. The protocol excerpts are shown on an overhead projector. After reading each excerpt, I discuss the kinds of ideas the writer uses and how they help her formulate an interpretation she can direct to Suzie.

example 1

(reads assignment instructions) Suzie Valdez? She's in bad shape. I shouldn't talk. . . I did the same thing in my freshmen English class in college. I really procrastinated. . .

Discussion:

The reader is using and connecting her own ideas and experience with those presented in the assignment. This helps her access her own knowledge and experience so she can use it to evaluate her reading, and so she can determine what advice is relevant for her audience (Suzie).

example 2

(reads to .5) worker's time? I don't know if this applies to students too. . .

Discussion:

The reader is using and connecting ideas in the reading to those in the assignment (the fact that Suzie is a student, not a worker) to determine whether or not she can use the information to solve her assigned problem (convince Suzie, a student, to adopt better study habits).

example 3

(reads to .17) I'm not necessarily sure that's true. . .um. . .because it's sort of like . . . speed. . . may be a certain kind of energy but I'm not sure if you can concentrate as well and focus. . . on things as well. . . yes. . .I'm not sure if you're as conscious if you do that. . .

Discussion:

Our expert writer is evaluating James's claim that writers can tap a new level of energy if they press on when tired. She uses her own ideas about speed and concentration to criticize and reject James's ideas. She can now discard this claim, decide it is not good advice for Suzie.

example 4

(reads to .31) James says you should keep going and have willpower through it. . . and Pauk. . . says will power alone can't induce concentration. . . but what can. . . how do you do that. . .keep concentrating in the face of. . . unless you force yourself to. . . nor will motivation alone help. . . that's true. . . you can want to do it really bad. . . but if you don't do other things to make it possible to happen. . .it's not going to happen. . .

Discussion:

Our writer recognizes a disagreement between the two expert's advice here. Pauk argues that willpower and motivation (the kind James argues will give a writer a second wind) will not work. Our writer, in the last example, has already decided with her own ideas that James is wrong. She now considers and accepts Pauk's advice as more suitable.

example 5

(re-reads passages and stops at .31) This planning is like making a big dinner party. . . if you cook everything in one day you'll be too tired to eat with the guests. . . but if you cook some the night before, or chop and freeze the veggies earlier in the week, you won't be tired.

Discussion:

The reader is using and connecting ideas from her reading and her own ideas, to better understand the text and evaluate whether it makes sense or not.

example 6

(reads to .36) okay so that's like Pauk. . .quiet distraction-free. . .calm. . . steady background sounds. . . well. . . I guess that's a matter of personal choice. . .I personally prefer to have a little music in the background and I usually put on music I'm familiar with so it doesn't create the jarring things. . .sounds. . . that's how I create a distraction-free environment. . . if I play the music quietly then I guess I'm doing what Pauk said to do. . .

Discussion:

Our expert writer uses her own ideas and work experience to evaluate Pauk's claim that a worker's environment should be quiet. She decides to modify his claim -- to advise Suzie to create an environment that is suitable for her needs, whether she needs quiet to work or perhaps a little music as she does. Thus, she is creating her own unique claim or advice here.

example 7

(reads to .44) Suzie needs to write a five page paper... she knows she can't get an extension, say ... but she puts it off 'till the last night. Okay, I guess that's creating a crisis. . .

(reads to .45) well, James might agree, say the fatigue will pass away. . . I'm not sure. . . I don't think so cuz if you create a crisis by staying up late and you have like a billion things. . .there's a limit. . . panic. . . it's not fatigue that's gonna get you. . . it's panic. . . after a certain point. . . um. . . it's going to drain you. . .or keep you from concentrating. . . cuz you're going to be so worried. . . I think that's just too much. . . so creating a crisis. . . isn't a good idea. . .

Discussion:

The reader connects the assignment ideas (what Suzie does) to an idea in the reading (creating a crisis), and sees that this portion of the reading might be relevant to Suzie. Our writer is evaluating the student strategy (which is also Suzie's strategy) by comparing it to James's advice (which she rejected) and her own knowledge about meeting last-minute deadlines. She is now able to come up with her own claim, one she can address to Suzie, the claim that Suzie's strategies for last-minute studying and writing are ineffective. Our writer now can explain and support her claim with the reasoning she used above while she read the passages.

example 8

(returns to paragraph #1) What Lakein says about pacing. . . scheduling is good. . . um. . . especially because when he's saying about external time. . . he's saying give yourself a chance and have some fun but then make sure you do some work every day. . . it's like making that big dinner party. . .like I said. . . if you make everything in one day you'll run yourself ragged. . . but if you cook some before and freeze some of it. . . and get things chopped. . . ready. . .um. . . you won't be exhausted by the time you have to cook.

Discussion:

Our writer uses her own knowledge to accept Lakein's advice, which later becomes a major claim that she can explain to Suzie and illustrate with her dinner party example.

example 9

(following previous comment) and that's what Suzie says happens to her. . . by the time she has to sit down at the exam table, she's too tired to eat. . .

Discussion:

The reader is connecting three different types of ideas he re. She connects Suzie's problem (an idea from the assignment) to her own dinner party experience (her own idea), but she's already likened exam preparation or studying (taken from the reading) to her own ideas about dinner parties. This writer creates an elaborate network of ideas here. She isn't simply wrenching the experts' advice from the text; she is carefully evaluating it and determining its relevance to her audience's needs.

example 10

(after finishing passages and re-reading assignment) she tells you she reads only when she feels like it. . . that just goes against the advice on pacing . . .that's not a good idea. . . that's certainly against what we know about how people learn. . you have to keep at it and. . . process it until you get it into memory. . . which she never feels like. . . writing. . . or memorizing. . . she

waits till the night before. . . creates a crisis. . . I don't get good grades. . . that's `cuz you haven't done a very good job. . .you do the work but you don't do it well. . .then you're exhausted.

Discussion:

Our writer now compares ideas from the assignment -- Suzie's problem -- with acceptable solutions from both the experts and her own knowledge about how people learn and memorize. She now has advice that she can argue for.

example 11

This writer claims in her final paper that James is wrong and that Suzie should not simply stay up and wait for a second wind. "That won't work for Suzie," she claims, "she's not just working late; she's created a real crisis. If fatigue doesn't get her, panic will. When people
encounter crises and deadlines, they can't concentrate or relax -- they panic. And as time management expert Walter Pauk has pointed out, concentration is crucial for good work, effective use of time."

Discussion:

Our writer's thinking in example 8 helped her to link Suzie's real problem to a crisis situation; from her own knowledge she knew that crises inhibit concentration and from the reading she knew that poor students use that strategy. This well-reasoned claim was worked out as the writer interpreted her reading. We can see here the importance of using and connecting all kinds of ideas as we read to develop a thesis; using our own ideas is especially important because they help us to relate to the assignment and to evaluate the ideas we read. It is also important to refer constantly to the assignment, to keep our interpretation on track. Are we choosing information that is well-adapted to the question or problem and audience to whom we are assignment?

SUMMARY AND REVIEW OF NEW CONCEPTS

Once the students have worked through the task and compared their text representation with that of the expert writer, I raise the following questions to review and discuss what they've learned.

What is Thesis Writing?

Most people know that a thesis is a claim or assertion that a writer supports and argues for in a paper. However, this definition only touches the surface of thesis writing -- the written paper itself. In fact, we should dig beneath that surface and expand our definition of thesis writing to include all the hard mental work writers need to do to come up with their written arguments. Experience with this assignment shows that people just don't formulate arguments from scratch. When your professor assigns a thesis paper, you usually do some reading on the assigned topic first. You then respond to, select and synthesize information from your reading in order to evaluate it and use it to make some claims. A better definition of thesis, then, would need to include how writers read and interpret information, as well as how they write and defend their claims. Let's define thesis as *a well supported interpretation a reader formulates in response to some question or problem.*

What Kinds of Ideas Go into Thesis Writing?

The most obvious answer is that writers use ideas from the sources they read, as you used in your papers many ideas straight from the time management experts. Writers use the ideas from their sources in their arguments as evidence or examples. There are, as we've seen, other ideas a writer uses as well. We noticed that the successful writer used three types of ideas as she developed her thesis.

R = ideas taken from the reading/s (verbatim or paraphrased advice from the experts)

O = her own ideas (taken from prior knowledge or experience with the topic)

A = ideas provided by the assignment (the question or problem the reader will address -- in this case, Suzie's study habits and their consequences

Writers invoke and use these ideas to create a mental picture of the "text" they create as they research sources for their papers. These aren't real "texts"; "text," in this sense, means a writer's understanding of what he reads, his interpretation. He can change his "text" as he adds new ideas or connects these ideas to each other. Readers construct these mental texts all the time to help them work through and understand their reading. The process of invoking and connecting these ideas together is what you do when you interpret a text to develop an argument.

An important lesson is that successful thesis writers should concern themselves not only with understanding the ideas they read, but that they should also focus heavily on their own ideas and those taken from the assignment. We can conclude that using all three types of ideas and not just those from the sources is an important part of creating a successful thesis.

Successful writers must link concepts from the reading with their own ideas or to those in the assigned problem. If a writer fails to do this he risks simply paraphrasing what he has read instead of creating a new and useful argument addressed to the assignment. The successful writer uses all the ideas at her disposal and weaves them together as she reads. She uses the assignment as well as her own ideas to select and evaluate information in the text so she can respond to the assigned problem. This writer doesn't simply repeat what she has read. She produces a paper full of information -- full of her own claims.

SUMMARY/RATIONALE

A student's success with thesis writing depends on his ability to go beyond accruing and regurgitating "facts" he learns from his reading; yet many college freshmen construct text-based representations which encourage them to deposit the facts they read "as is" into the texts they write. Bereiter and Scardamalia (1985) refer to this strategy as "knowledge telling."

Students who use this strategy view the text as autonomous -- distinct from the rhetorical situation which should control and determine their reading. There are good reasons why students represent their texts this way. Applebee (1985), who studied typical writing assignments of 9th and 11th graders, observed that, since high school writing often requires simple "recitation" of what students learn, they come to expect that "the accuracy of that recitation is what matters." It is no small wonder that by the time these students reach college, they consider assigned texts as isolated bodies of knowledge that can be reconstructed in tidy summaries or reports. This way of representing a text can be useful when a reader's goal is to comprehend the texts he reads. But if one proposes to do more -- to use the texts in order to write a thesis paper, for example, this representation of the text may not be very productive. Although reading to develop a clear thesis paper requires that students understand what they read and that they report some of that information, this reporting should be done in the context of responding to some question or problem. Thus, thesis writing requires a more elaborate representation of the text -- one which encompasses not only ideas present in the reading, but a reader's own ideas and ideas from the assignment.

Limited, text-based representation does not allow the student to do what a more elaborate representation would -- to select information in reading relevant to the task demands; to evaluate information in terms of one's own knowledge and to synthesize one's ideas into claims. These reading strategies are crucial to the task of reading to write a thesis, but the way students represent or view the information at their disposal will determine whether or not those complex strategies ever come into play.

The approach I have discussed above defines and models expert representation for students, and encourages them to create more elaborate representations of their own. This introductory lesson will help students gain a clear understanding of what they'll need to do -- of what the task demands. Clearly understanding assignments and what they involve can be a difficult endeavor for students (Higgins, 1985). This lesson clarifies just what is needed for successful thesis writing: elaborate text representation. Only when students clearly represent the requirements of the task, will they be able to carry it out effectively.

SUGGESTED READINGS

Applebee, A. (in press). Toward a Post-Process Paradigm: Notes on the Failure of Process Approach to Writing Instruction. *National Society for the Study of Writing Yearbook.*

Bereiter, C., & Scardamalia, M. (1985). Cognitive Coping Strategies and the Problem of inert knowledge. In S. Chipman, J. Segal, & R. Glaser (Eds.), *Thinking and learning skills: Current research and open questions*, 2, (pp. 65-80). Hillsdale, NJ: Erlbaum.

Collins, A., Brown, J., & Larkin, K. (1977). Inference in text understanding. In R. Spiro, B. Bruce, & W. Brewer (Eds.), *Theoretical issues in reading comprehension.* Hillsdale, NJ: Erlbaum.

Higgins, L. (1985). *Interpreting assignments: An exploratory study.* Unpublished essay. Pittsburgh, PA: Carnegie Mellon University.

Tierney, R., & Pearson, P. D. (1981). Learning to learn from text: A framework for improving classroom practice. In E. Dishner, J. Readence, & T. Beab (Eds.), *Reading in the content area: Improving classroom instruction.* Kendall Hunt Publishing.

Appendix I: Read-to-Write Assignment on "Time Management"
Reading and Interpreting Data

Here are some notes, including research results and observations, on time management. Your task is to read and interpret this data in order to make a brief (1-2 page), comprehensive statement about this subject. Your statement should interpret and synthesize all of the relevant findings in the text. Use approximately 10 minutes to read the materials and approximately 30 minutes to rough out what you will say in your statement. Treat this as a draft.

When you hand this assignment in, please include **2** copies of your final essay, and **1** copy of all notes made while doing this task.

The Passage

Reading Notes on Relevant Research

Time management in professional settings and academic environments has been the subject of extensive research and numerous self-help books.

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The key to success, according to efficiency expert, Alan Lakein in his recent book *How to Get Control of Your Time and Your Life,* lies in pacing and planning. He notes that planning is decision making, and it is imperative that decisions on using time to best advantage be made. The average worker has two types of "prime time" to plan: external time and internal time. External prime time is the best time to attend to other people. Internal prime time is the period in which one works best. Scheduling large blocks of time in advance helps organize the work day.

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Noted philosopher and psychologist William James found that most people do not use their mental energies in sufficient depth. He advocated continued concentration in the face of apparent mental fatigue: "The fatigue gets worse up to a certain critical point, when gradually or suddenly it passes away, and we are fresher than before. We have evidently tapped a new level of energy."

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Cornell University has maintained a major center for research and advising on student skills, directed by Walter Pauk. His work has analyzed the factors that affect academic performance. According to Pauk, the ability to concentrate is an invaluable asset to the college student. Will power alone can't induce concentration. Students may be breaking concentration whenever they remind themselves that they must use will power to concentrate. Nor will motivation alone help students who don't know how to study and don't create a quiet, distraction-free environment, and don't schedule their time carefully. Pauk found that students who schedule as much study time as possible into their days are likely to be better students and suggests that a good daily schedule is the key to quality work.

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In his guide to intellectual life, Jean Guitton stresses the importance of preparation for peak performance, asserting that it is vital to rest at the least sign of fatigue and to go to work with a relaxed attitude. Preparation for work also includes creating the right environment. Find a place that is at once calm and stimulating. Tolerate nothing that is not useful or beautiful. Steady background sounds, such as music, can mask distracting noise.

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In a recent survey of private college students, students reported some of the following as their standard strategies for getting through assignments:

- Do what's due; postpone big projects
- Create a crisis
- Get all the easy stuff out of the way
- Do a writing assignment all in one sitting
- Allow the minimal estimate of time it will take to get a project completed
- Read material once; don't try to remember it until it's needed.

The students surveyed said they use strategies like these to minimize the debilitating effects of long-range pressures. They assume that they will understand the subject matter sooner or later, and that inspiration will be on hand when they need it. Teachers never want as much as they ask for, so overlearning the material will be a waste of time.

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TASK: Now go ahead and write down on another piece of paper your statement about time management based on your interpretation of this data.

MOVING FROM SENTENCE-LEVEL TO WHOLE TEXT REVISION: HELPING WRITERS FOCUS ON THE READER'S NEEDS

By

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ABSTRACT

While writing teachers urge their students to "consider the readers' needs" during revision, classroom experience and research show that many students have great difficulty in doing so. One major barrier to success in adapting a text to meet the readers' needs lies in student's tendency to revise sentence-by-sentence. Most inexperienced writers have an inappropriate and severely limited definition of what revision is (Stratman, 1984; Schriver, 1985, 1987a; Hayes, Flower, Schriver, Stratman, and Carey, 1987). To help students recognize how a sentence-level view of revision limits the problems they see and prevents them from making the most helpful revisions for a reader, this lesson was designed to help writers see the importance of taking a whole-text perspective. The goal of this lesson is to show students how their perspective during revision influences how they evaluate a text, what they see as problems that need to be solved, which problems they attempt to solve, how they organize their revision, and how they approach solving problems. In particular, the lesson introduces several important concepts: 1) the importance of **predicting the readers' needs** during revision, 2) the nature of **task-definition** in revision, 3) **whole-text** versus **sentence-level** approaches to revision, and 4) **linear revision**. Overall, the lesson encourages students to be conscious of their revision perspective, to adapt a whole-text approach early in the revision process and to delay sentence-level revisions until the "whole-text" has been considered from the readers' point of view. This lesson will be useful to writing teachers who are either introducing the process of revision or who are discussing audience awareness and revising for readers.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The Task

As a homework assignment that students prepared before the lesson, we asked our students to evaluate several texts in need of revision. We chose four short "problem" texts and asked students to do an exercise that focused on detecting and diagnosing problems in faulty texts. For two texts, we asked students to underline problems in the texts from *their own point of view*; for the other two texts, students were asked to underline problems from *another readers' point of view*. Specifically, students were provided with two texts that were attached to a set of directions labelled A, and two texts that were attached to a set of directions, labelled B. The general directions for A and B are below:

General Directions: A

On each of the next few pages, you will find a different passage that has been excerpted from a popular science magazine. Read the passage and try to understand it. During your reading, focus on any aspect of the passage that gives *you* difficulty in understanding the text.

General Directions: B

On each of the next few pages, you will find a different passage that has been excerpted from a popular science magazine. Read the passage and try to understand it as *another freshman reader* would. During your reading, focus on any aspect of the passage that might create a problem for another freshman in trying to understand the text.

In addition to the general directions, A and B, students were asked to use a set of more detailed procedures in carrying out the directions for both A and B.

Specific Directions for A and B

1. Read the passage once.

2. Read the passage again, this time underline any aspect of the text that may give another freshman a problem. *Note: In version A, the phrase, "gives you a problem" was substituted for "give another freshman."*)

3. Number each underlined part, e.g., the first underline will be # 1, second will be # 2, etc.

4. Now turn to the next page and you will find an answer sheet numbered 1-15.

After you have completed the underlining task, look at each underlined part and try to identify what you think the problem is. Then briefly *describe what th problem is* on the answer sheet, placing your description next to the number you have assigned it in the original passage, e.g., problem # 1 should be described in space # 1 on the answer sheet. You should write a description for each part of the text you underlined.

6. When you are finished with each description, go to the next page and complete the same procedure for the next passage.

Classroom Procedure

Half of the class evaluated texts 1 and 2 from their own perspective and texts 3 and 4 from another reader's, while the other half of the class evaluated texts 3 and 4 from their own perspective and texts 1 and 2 from another reader's. In addition, students were asked to make a list of the revisions they would make to improve the texts and to number the list in the order they would make the revisions. The texts we used are below.

Materials: "Problem" Texts Used in the Lesson

Text 1

Holography

Lights, mirrors and nozzles are the tools of holography--the reconstruction of light waves to create a three-dimensional image. Unlike photography, holography produces no negative. It produces a hologram, a recording of th light waves reflected from a laser-illuminated object. First, the laser's light is split into two beams. One is reflected by a

mirror onto a photographic plate; the other is directed at the subject. When the laser strikes the subject, it is fractured by the uneven surface and reflected back to the plate. Thus, the plate records a superimposed pattern of both sets of light waves--the pure ones from the mirror and the jumbled ones from the subject itself. Then another laser beam is directed through the photographic plate to release the three-dimensional image.

Text 2

Artificial Heart

A miniature nuclear furnace is needed to keep an artificial heart beating. The artificial system consists of the synthetic heart chambers and valves themselves, an engine to make the chambers pump, and the fuel source to run the engine. The nuclear source is a two inch capsule containing Plutonium-238 with a half life of 89 years and a very slow rate of decay. The capsule surface is 360 degrees Fahrenheit so a metal "carrier" was designed to conduct excess heat out of the body. This carrier is attached to the aorta by means of a titanium tube. First, a two inch segment of the aorta is unclamped to allow the blood to flow through the tube. The nuclear capsule then is placed in the carrier.

Text 3

Babies Smiles

A psychiatrist who studied the brain-wave patterns of more than 300 babies reports that infants have two different smiles. The sleepy smiles during the first two weeks of life are caused by an internal stimulus--the growth of the brain stem. The brain stem is a primitive portion of the brain that is not directly involved in sight or thought. During this time, grins caused by drowsiness or wriggling in sleep occur as many as six times per hour of sleep. Smiles in response to external stimuli do not begin until the age of at least three weeks, but inward-growing grins still occur at 2 1/2 months. Then around 4 months there is a shift, the baby's smiles are triggered by entirely outside things. If the child is awake and not crying, he tends to smile at comforting sights, sounds and touches.

Text 4

Flywheels

Flywheels are one of the oldest mechanical devices known to man. Every internal-combustion engine contains a small flywheel that converts the jerky motion of the pistons into the smooth flow of energy that powers the drive shaft. The greater the mass of the flywheel and the faster it spins, the more energy can be stored in it. But its maximum spinning speed is limited by the strength of the material it is made from. If it spins too fast for its mass, any flywheel will fly apart. One type of flywheel consists of round sandwiches of fiberglass and rubber providing the maximum possible storage of energy when the wheel is confined in a small space as in an automobile. Another type, the "superflywheel," consists of a series of rimless spokes. This flywheel stores the maximum energy when space is unlimited.

Student Responses

Before telling students about how we had divided the class, we asked them to discuss the problems they identified and their suggestions for revision. The goal of the discussion was to engage students in a dialog focusing on similarities and differences in the problems they identified. In particular, we wanted to lead students to recognize that "knowledge" of a text's topic can help and/or hinder one's ability to understand that text. It is important to point out that texts 1-4 were chosen for two reasons: first was to demonstrate that texts without grammatical errors can be problematic, and second was to illustrate that if the reader has an understanding of the topic, it will be more difficult for that reader to see the unclear aspects of the text, aspects that could trouble another reader without such knowledge. Research has show that subject matter experts and inexperienced writers share something in common: they believe that if they understand a text's topic, the reader will understand it (Swaney et al., 1981; Hayes, Schriver, Spilka, and Blaustein, 1986).

The discussion helped students to see how the problems they identified changed, depending on whether they were considering problems from their own perspective or that of another reader. In addition, the discussion showed students how they differed from each other, both in the revisions they suggested, as well as in the order in which they expected to carry out the revisions. A closer look at some of the more typical student responses illustrates how discussing the two parts of homework exercise (i.e., "predict the reader's problem" and "suggest revisions and order them") helped to set the stage for the lesson on "whole-text" revision. Let us first examine a few student responses to the "predict the reader's problem" task and then look at how students saw the revision task.

How Students Predicted the Reader's Problems

In general, when students predicted *their own problems*, they underlined words, phrases, concepts, processes, and definitions that they did not understand or that seemed confusing. Most students asserted that the writer of the passage did not think about what would confuse a reader. For example, one student commented,

> The writer of the "flywheel" passage acts as though anybody would know how flywheels work. The author assumes that the reader understands internal combustion engines and how they work. Since I did not understand anything that was said about the basic flywheel, I did not get the point about the "superflywheel."

In predicting their own problems, students frequently discussed the problems in terms of "knowledge the writer assumed they had but did not." While some students were irritated by the writer's assumptions about what they supposedly knew, others were intimidated and did not admit they did not know what some of the passages were about. When questioned about the passages, it became evident that some students who said the texts were very clearly written actually did not understand them.

When students predicted the problems for *another reader,* they generally underlined two classes of problems: 1) the same problems they had themselves as readers; and 2) problems they did not have themselves but that they predicted would bother another reader of the same age. Many students said that they used their own failure to understand the text as the best signal that another reader would not

understand it. For these students, they saw no difference in tasks A and B. Students who responded in this manner generally had little or no topic knowledge about any of the passages.

Some students, however, saw clear differences between the problems they had and the problems the texts might cause for another reader. These students compared their knowledge of the topic to the knowledge they thought another freshman would have and said they identified more problems than they would have underlined as problems for themselves. For example, one student explained that he knew what holography was because he had been to a museum of holography with his parents, and had bought a hologram of an eye that he had watched being made. He asserted that readers who had not seen how holograms are made would not understand the passage. He argued,

> Without firsthand experience in actually seeing the process and tools of holography, another reader would never understand this description. It's a very complicated set-up to understand even when you see it. The author leaves a lot for the reader to figure out, especially the part about the mirrors and nozzles.

Another student said that she knew a great deal about how artificial hearts work because she had written a report about them in a biology class. She was very interested in the case of the famous artificial heart recipient, William Schrader. She claimed that her "inside knowledge" of the story made the text very easy to understand, but that she knew others people who did not have that knowledge would find the text dense and hard to read.

While some students immediately noticed a difference between the kinds of problems they underlined for themselves and for another student, most were surprised to see that they discovered *more* problems for another student than they did for themselves. We then explained how the class had been divided and asked students to say how many problems they had detected on each text. Since for each text, half of the class predicted their own problems and half had predicted another's, we tallied the average number of predictions and found that overall, students felt other readers would have more troubles with the texts than they would.

The discovery that students predicted more problems for another reader than they did for themselves led to a discussion of the idea that "even though the text is clear to me, it might not be clear to another reader." We discussed how a writer's topic knowledge, prior experience, assumptions, and "inside" knowledge of the text's purpose can act as "sun glasses" or filters preventing writers from "seeing the text as another reader would." In some cases, the knowledge will help them comprehend a difficult and perhaps poorly written text; in other cases, the lack of knowledge will make the text more difficult and if poorly written, probably incomprehensible. This led to the realization of the importance of anticipating the reader's understanding of and attitude toward the topic one is writing about. Moreover, students saw how during revision, it becomes especially important to attempt to view the text as the reader might. **Predicting the reader's problems with the text** (Schriver, 1985, 1986a, 1986b, 1987a, 1987b) emerged as a powerful way to help students move beyond the pervasive egocentric view of the text, "if it's clear to me, it must be clear to them" (Hayes, Schriver, Spilka, & Blaustein, 1986).

How Students Listed and Ordered Revisions

Two salient characteristics of students' perception of revision emerged from this activity:

1. The overwhelming majority of students tended to limit the changes they would make to **word-level** revisions. This occurred despite the frequency of students' complaints that they could not understand processes, definitions, and the overall organization of the four passages.

2. For the most part, the structure of the paragraph dictated the order of suggested revisions. Students sequenced the revisions in the order in which sentences appeared in the text, clearly demonstrating a **linear sentence-level** revision process.

This kind of response to the prompt to "list and order suggested revisions" is not unusual. Many researchers in revision have found that inexperienced student writers tend to focus their attention at the sentence-level during revision (Sommers, 1980; Schriver, 1984; Flower, Hayes, Carey, Schriver, and Stratman, 1986; Hayes, Flower, Schriver, Stratman, and Carey, 1987). Most inexperienced writers have an inappropriate and severely limited definition of what revision is (Stratman, 1984; Schriver, 1985, Hayes, et al., 1987). To help students recognize how a sentence-level view of revision limits the problems they see and prevents them from making the most helpful revisions for a reader, we introduced a range of concepts related to the process of revision.

INTRODUCTION OF NEW CONCEPTS

Revision is one of the hardest parts of the writing process. Most of us have problems revising and there are many reasons why it is difficult:

- if you like what you've written, it's hard to change what already seems like a good idea;

- if you think what you've written is really bad, it's hard to decide what parts to delete and what to save;

- if you've decided that your text definitely needs revision, it is often hard to know what to change first and what should wait for last.

Research shows that writers' definition of a revision task has a dramatic impact on several key aspects of the process: how they evaluate texts, (sentence-by-sentence or from a whole-text perspective), what they see as problems that need to be solved, and whose problems they attempt to solve (from the writer's perspective or from another reader's).

Task Definition in Revision

Task definition in revision is the process by which the writer decides what to do and where to spend the most effort. Task definition is especially important in revision because:

1. Task definition sets the overall goals for revision. For example, a writer of a persuasive text might define his or her task as that of determining whether every argument in the text contributes to persuading the reader in a convincing way. Setting such a top level goal will have a marked influence on two crucial aspects of the revision process: what the writer deletes and what the writer adds. Conversely, if the same writer defined the task of revision as looking for typing errors, the writer would not focus on how persuasive the essay's arguments were.

2. Task definition sets the writer's criteria for evaluating text. For example, a writer of a scientific text such as the one on holography might consider revising the text's content from the perspective of a reader who has no background on the topic. Defining the task as one of making the content clear for a naive reader would influence what aspects of the text the writer saw as problems. The revisor in this situation would not define text problems from his or her own perspective, but would try to predict the reader's problems with the text.

3. Task definition influences strategic choice during revision, both decisions for managing the revising process, and for strategies for modifying the text (Schriver, 1985; 1987c). For example, a writer who decides to focus on the logic of the text's argument early in the revision process, makes a simultaneous choice to ignore other kinds problems, e.g., problems of mechanics, until later in the revision process. Furthermore, the writer who adopts such a definition implicitly decides that if a problem of logic is detected, a whole section of the text may need to be rewritten.

Linear Sentence-level Revision

Researchers have seen that many writers adopt either a ***linear sentence-level*** or a ***whole-text definition of revision***. These approaches differ dramatically, both in their impact on the way the writer revises and in how they influence the changes writers make.

The ***linear sentence-level*** perspective of revision is one in which the writer:

1. Reads a clause or the first sentence.

2. Asks, "Is there anything wrong with this sentence?"

3. If yes, fix it.

4. If no, go on to the next clause or sentence.

5. Continues in this manner, sentence by sentence, until he or she reaches the end of the text.

The sentence-by-sentence approach to revision creates several kinds of problems for writers. Evaluating and revising sentences in isolation is like wearing blinders. This approach makes it hard to see how individual sentences relate to the whole-text. The sentence-by-sentence approach focuses the writer's attention on

fixing words and phrases rather than on the main ideas, issues of logic, coherence, organization, and structure of the text. When writers evaluate sentences out-of-context, the sentences may seem fine, but they cannot tell if they will fit into the context unless they pay attention to the context itself.

In addition, the sentence-by-sentence approach is inefficient because it wastes time. Writers often revise sentences that they later discover should have been deleted. Taking a linear sentence-level approach to revision prevents writers from spending time where it will make the largest impact on the text, that is, on the aspects that will trouble the reader most, e.g., poor organization or logic.

Whole-text Revision

A ***Whole-text*** approach to revision provides the writer with quite a different set of criteria about how to judge the effectiveness of the text. Rather than questions such as "Should I revise this word?" the writer asks questions such as "How does this paragraph fit into the text?" or "Will the reader understand the way I have presented this idea?" The whole-text approach focuses the writer's attention on how well the text meets the needs of the reader. In practice, "whole-text revision," differs greatly from the process of "sentence-level" revision. When engaged in whole-text revision, the writer's activities are not dictated by the order in which sentences appear in the text, but rather by the writer's sense of problems that require attention and fixing prior to attention to word and phrase level difficulties. Writers adapting a whole-text approach direct their activities by their sense of problems at the paragraph, section or "macro" level of the text. The process by which writers arrive at "their sense of whole-text" problems is quite different than that of writers adapting a sentence-level approach. Below is a brief summary of the main differences between expert and novice definitions of revision:

- Experts read the whole text before they begin to revise; novices tend to begin revision upon reading the first sentence.
- Experts frequently extract the gist of the text, state its goal and/or purpose before revision; novices often fail to do any of these activities.
- Experts consider audience needs before and during revision; novices sometimes consider audience needs, but often don't act to meet them.
- Experts frequently create "an inventory of problems" during revision; novices don't.
- Experts usually work "in passes" when revising; novices don't (Stratman, 1984; Schriver, 1985).

Although inexperienced writers often know that it is a good idea to consider the reader during revision, they frequently do not know how to do it. Further, they do not know how to structure their revision process in a way that increases their ability to "see" problems beyond the word and sentence level. Listed below is a sequence of activities for writers who need practice in whole-text revision.

1. Ask yourself, "What is the goal of this text?"

2. Imagine the audience as clearly as you can and write down how you think they would respond to the texts' topic (make your decision not on the way the topic is presented in this text, but on how the audience might respond given any text on this topic.)

3. Read the text all the way through once.

4. Analyze what parts may create confusion or bother the intended reader.

5. Reread each paragraph and restate the meaning as you think the reader might, taking notes where you find parts that are unclear, missing, redundant, etc.

6. Make an inventory of the problems that will most bother the reader.

7. Make decisions about what revisions need to be made and decide which problems need attention at the paragraph or section level--these problems should be remedied first. Decide on an order for fixing the text's problems. After considering revision from a "whole-text" perspective, focus on the individual sentences that need work and mark those portions.

8. Create a step-by-step plan for revising the text for the intended audience. Characterize your goal for the reader is as a result of completing each step.

9. Share that plan with another writer and discuss the differences, both in the choices you made and in the order of revisions you planned.

It is not surprising that many students view revision as a sentence-level task; our textbook tradition of drill and practice "revision exercises" focus almost exclusively at the sentence-level. Teachers and textbook exercises rarely ask students to detect problems in the context of a whole-text. Perhaps the most powerful influence on our students' perspective is the legacy of twelve or more years of English teacher's correcting and grading their papers for typographical, grammatical, mechanical, and orthographic correctness. Our myopic attention to grammar and mechanics has left many students with the belief that error-free sentences are the primary and only signs of a well-written text. We have, to use the jargon, "privileged" the word and sentence over the reader and over the whole-text. Despite problems associated with paying so much attention to grammar and mechanics, teachers, of course, should not assume that they should stop teaching these necessary skills. Instead, teachers much enlarge the scope of their teaching and must provide situations in which students can practice alternative approaches to revision. In this way, students will develop strategies that will allow them to revise at both whole-text and sentence-levels.

It is important in teaching revision to help writers adopt a hierarchical approach to the process. Writers should be encouraged to delay sentence-level revisions until the whole-text has been considered from the readers' point of view. In summary, writers need to:

- build an understanding of what the text says by reading the whole text from the point of view of the *reader;*
- consider the *whole-text,* its goals, content, logic, structure, and so on;
- consider the *sections* and the coherence between main parts of the text;
- consider the *paragraphs* and how they contribute to the main point(s) of the sections;
- consider the *sentences* and how they convey meaning;
- consider the *words* and how they are used to build sentences.

We find that helping writers move from a sentence-level to a whole-text approach to revision changes what they do in a radical way. It helps inexperienced writers consider the text from the reader's point of view in a way that is not possible when they limit their attention to single sentences. Moreover, it helps writers to become more flexible in their ability to revise and in the scope of revisions they make.

SUGGESTED READINGS

Ede, L. (1984). Audience: An introduction to research. *College Composition and Communication, 35* (2) 140-145.

Ede, L., & Lunsford, A. (1984). Audience addressed/audience invoked: The role of audience composition theory and pedagogy. *College Composition and Communication, 35,* (2) 155-171.

Flower, L., Hayes, J. R., Carey, L., Schriver, K. A., & Stratman, J. (1986). Detection, diagnosis and the strategies of revision. *College Composition and Communication, 37,* (1), 16-55.

Hayes, J. R., Schriver, K. A., Spilka, R., & Blaustein, A. (1986, April). *If it's clear to me, it must be clear to them--how knowledge makes it difficult to judge.* Paper delivered at the 1986 American Educational Research Association Convention, San Francisco, CA.

Hayes, J. R., Flower, L., Schriver, K. A., Stratman, J., & Carey, L. (1987). Cognitive processes in revision. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics, Volume II: Reading, writing, and language processing* Cambridge, England: Cambridge University Press

Nold, E. (1982). Revising: Intentions and conventions. In R. Sudol (Ed.), *Revising: New essays for teachers of writing*, Urbana, Il: ERIC/NCTE, 13-23.

Nold, E. (1981). Revising. In C. Frederiksen (Ed.), *Writing: The nature, development and teaching of written communication),* Hillsdale, NJ: Erlbaum.

Schriver, K. A. (1987a). *Teaching writers to anticipate the reader's needs: Empirically based instruction.* Dissertation in Rhetoric. Pittsburgh, PA: Department of English, Carnegie Mellon University.

Schriver, K. A. (1987b April). *What's wrong with this text: Do writers and readers agree?* Paper delivered at the 1987 American Educational Research Association Convention,Washington, DC.

Schriver, K. A. (1987c, March). *Revising for the reader: What research tells us about teaching audience awareness.* Paper delivered at the 1987 Conference on College Composition and Communication, Atlanta, GA.

Schriver, K. A. (1986a, March). *Increasing writers' sensitivity to readers' needs.* Paper delivered at the 1986 Conference on College Composition and Communication Convention, New Orleans, LA.

Schriver, K. A. (1986b). *Teaching writers to predict readers' comprehension problems with text.* Paper delivered at the 1986 American Educational Research Association Convention, San Francisco, CA.

Schriver, K. A. (1985). *How task definition influences strategic choice in revision.* Paper delivered on a panel, "Recent Research in Revision: Definition, Detection, and Diagnosis," at the 1985 Conference on College Composition and Communication, Minneapolis, MN.

Schriver, K. A. (1984). *Strategy selection in revision: How experienced and inexperienced writers make strategic decisions during revision.* Paper delivered on a panel, "Competing Views in Revision: What Makes the Process so Difficult?" at the 1984 American Educational Research Association Convention, New Orleans, LA.

Sommers, N. I. (1980). Revision strategies of student writers and experienced writers. *College Composition and Communication, 31,* 378-387.

Stratman, J. (1984). *Task definition in revision.* Paper delivered on a panel, "Competing Views in Revision: What Makes the Process so Difficult?" at the 1984 American Educational Research Association Convention, New Orleans, LA.

Swaney, J. H., Janik, C., Bond, S., & Hayes, J. R. (1981). *Editing for comprehension: Improving the process through reading protocols.* (DDC Tech. Rep. No. 14). Pittsburgh, PA: Carnegie Mellon University.

IMAGES OF ACADEMIC DISCOURSE: EXPANDING OUR STUDENTS' PERCEPTIONS

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ABSTRACT

By observing experienced and inexperienced academic writers struggling with the same tasks, composition researchers have discovered what Mina Shaughnessy calls "hidden features of competency or certain skills and orientations." One such orientation is the set of attitudes or criteria students bring to academic writing tasks. The results of a study (which set out to discover what kinds of knowledge and strategies students bring to bear when asked to evaluate academic writing) indicate that less experienced and less successful academic writers focus on the content and local features of texts while more experienced writers focus on the larger rhetorical elements. These three strategies--labeled the **Information, Conventional Features, and Rhetorical Purpose** strategies--allow writers to focus on different aspects of a text and to evaluate texts more systematically and effectively.

SELF-ANALYSIS TECHNIQUE FOR STUDENTS

The Task

As a homework assignment before class students were asked to complete the following two short exercises in order to make them aware of their own and other students' criteria for evaluating academic texts. I explained the goals and directions for this assignment as follows:
This brief assignment has two important goals: to make you *aware* of the strategies you currently use to evaluate academic writing; and to teach you how to evaluate academic writing in a new way, using the same criteria as experienced academic writers and teachers. In order to discover what kinds of criteria readers use to assess academic writing, I have designed a perception study. This study is meant to uncover people's tacit or unconscious knowledge about academic writing by asking them to answer questions about MYSTERY TEXTS. You will be answering questions about these same MYSTERY TEXTS and evaluating other people's responses as well.

EXERCISE 1: Exploring the strategies you use to evaluate academic texts

Below are 2 sample MYSTERY TEXTS. Your task is to try to guess who wrote the passage; whether or not you are able to guess correctly is not as important as *how* you arrive at your answers. Explain your answers by listing the specific clues in the texts that helped you make your choice. Please write your answers in the space provided.

Question: Who is the author of each text? Possible choices are:

- an undergraduate student
- a graduate student
- a professor
- a non-academic writer

MYSTERY TEXT #1 *- Traditionally there has been a distinction made between editing and revision. For experienced writers editing means simply proofreading for errors, paring down sentences to make them concise and powerful, perhaps tightening organization by providing clearer transitions. Revision, on the other hand, means looking at the larger features of the text such as supporting details, arguments, organizational structure, and even the purpose and message of the entire piece. While the goal of editing is to merely tighten up an already finished piece of writing, the goal of revision is to evaluate a piece of writing that is not finished and to evaluate it especially from the reader's point of view.*

Write in your response: I believe that a(n) _____

_____wrote this passage because_____

_____

_____

_____

_____

Question: Who is the author? Possible choices are:

- an undergraduate student
- a graduate student
- a professor
- a non-academic writer

MYSTERY TEXT #2 *- All the subtler transforming and rearranging skills in revising depend upon a willingness to chop. For some reason people have found it easy to adopt a throw-away mentality with respect to the world's natural resources. "What the hell, there's plenty more where that came from." Yet people often find it difficult to learn a throw-away mentality with respect to our own mental resources. When it comes to words, ideas, feelings, and insights, there is plenty more where that came from. The more you use and throw away, the more you have available.*

Write in your response: I believe that a(n) _____

_____wrote this passage because_____

_____

_____

_____

_____

_____

EXERCISE 2: Examining other people's strategies

Below are examples of other people's responses to these 2 MYSTERY TEXTS. Notice that these readers focus on different aspects of the texts to explain their answers. Under each example, please briefly describe what the reader seems to be focusing on.

Sample responses to MYSTERY TEXTS 1 & 2:

#1
Anita - This is an undergraduate writing. I put a check next to "tighten up." It's a way of describing something, but it's not a good choice. "Tighten up" is kind of slang. I know that slang is used a lot more now, but this sounds like an undergraduate, not a professional writer.

#2
Anita - This is definitely a student. There are lots of mistakes. He starts this sentence with "yet" which is wrong; I think it's a fragment. And he uses "you" all the time which is pretty informal. (Note: there are NO grammatical errors in this passage; Anita is mistaken.)

What is this reader focusing on to characterize these texts?

_____

_____

#1
Bill - This sounds like a textbook because it's talking about typical English-handbook-type things, you know, organization, proofreading, those kinds of things.

#2
Bill - This is an undergraduate. I thought it was very confusing. "The more you use and throw away, the more you have available." I didn't understand that. It might be about how writing and editing are like natural resources.

What is this reader focusing on to characterize these texts?

_____

_____

#1
Cathleen - This could be a graduate student or a professor, someone who teaches composition. This is written for students or other people who are trying to improve their writing. The clear-cut structure, the comparison between editing and revision, was the big clue for me. It's an efficient way to discuss these two ideas, and it's a structure I'd use if I were teaching and wanted people to understand the difference between editing and revision.

(Note: Cathleen has identified the author correctly; this MYSTERY TEXT was written by a graduate student who teaches Strategies for Writing.)

#2
Cathleen - This is an academic person writing, someone like Linda Flower who teaches and wrote a book about it for students. The analogy that the writer uses was the big clue. From my experience, if a teacher can give the students something that they can relate to in thinking, they find it much easier to understand. She's trying to argue that people should throw away their writing just like they throw away resources, without a second thought. (Note: once again, Cathleen has identified the author correctly; This text was written by Peter Elbow, a composition teacher and researcher.)

What is this reader focusing on to characterize these texts?

_____

_____

Student Responses

Before introducing the three specific strategies for evaluating academic texts, I asked students to compare their responses in groups and to come to some sort of consensus about the strategies that Anita, Bill, and Cathleen used. The aim of this discussion was to make students aware of the different criteria they rely on to evaluate academic texts. Students indeed found that they had used very different reasons to justify their answers in the first exercise. For example, one student

argued that MYSTERY TEXT #1 had been written by an undergraduate because "they shoved in a conclusion that restates the paragraph and is therefore unnecessary." This student admitted that he had learned this method for concluding essays in high school, but associated it with inexperienced academic writers. Another student decided that MYSTERY TEXT #2 was written by an undergraduate because "I found it difficult to follow and certain things weren't clear." Thus, because he found the text's content unclear, he attributed it to a less experienced writer. Several students disagreed with him, however, arguing that a professor had written MYSTERY TEXT #2 because, for example, "his writing refers to other things outside of the topic and he purposely uses phrases that would be familiar to the person reading it." These students believed that the author had manipulated ideas and language to meet a very specific purpose, to convince other writers "to chop" or throw away their words. Clearly, all of these students could justify their answers, depending on the criteria they applied to the texts.

The second exercise helped students to discern a pattern in their initial responses. They characterized Anita's responses as "picky" because "she is looking at grammar and not at what the text has to say." Bill, on the other hand, seemed to focus on "what the text has to say, but not what the text means or does." They agreed that both of these strategies could be limiting. Students found it more difficult to characterize Cathleen's responses but agreed with one student who said she focused on "what the writer is trying to communicate to the reader and how he is doing it." What became clear after the discussion of the second exercise was that Cathleen's criteria for evaluating the MYSTERY TEXTS enabled her to get the "big picture" because she focused on the author's purpose for writing and not solely on grammar or content.

INTRODUCTION OF NEW CONCEPTS

Three Strategies for Evaluating Academic Texts

Clearly, Anita, Bill, and Cathleen each used different criteria to evaluate the MYSTERY TEXTS. Below are three categories designed to account for their different approaches.

1) ***INFORMATION*** - People focus on what the text is *about*; they may refer to unclear or confusing information as a clue to the author. The key to identifying this strategy is that the person focuses only on the content of the passage, on its "aboutness" in order to guess who wrote it. (Bill relied on this strategy.)

2) ***CONVENTIONAL FEATURES*** - People focus on "local" features such as sentence structure and word choice to identify the author. They also rely on certain **Conventional Rules** they learned from teachers and handbooks about how to writer correct academic prose. (Anita used this strategy exclusively.) For example, this collection of conventions or rules might include:

Don't *use* you or *I*
Don't use cliches or slang
Don't start a sentence with *and* or *but*
Begin each paragraph with a topic sentence
Always use the five paragraph essay format

3) ***RHETORICAL PURPOSE*** - People focus on the larger rhetorical purpose of the MYSTERY TEXTS. Instead of looking at local features, they focus on global issues concerning the whole text. They ask:

- Who are the writer's intended readers?
- What is the writer trying to do or achieve with these readers?

By asking these questions, people created an imaginary situation for the MYSTERY TEXTS; they imagined an appropriate writer or persona, a set of readers, and a purpose or goal for the text. (Cathleen looked for the rhetorical purpose.)

Using These Three Strategies to Produce and Evaluate Your Own Academic Writing

These three strategies help readers to focus on different aspects of an academic text, allowing them to get the BIG PICTURE of the text. Studies have shown that experienced academics rely on all three strategies to evaluate academic writing, but they rely on the RHETORICAL PURPOSE strategy most often. In other words, they expect academic texts to be written for a particular set of readers and for a particular purpose. Many less experienced academic writers use only the INFORMATION and CONVENTIONAL FEATURES strategies to evaluate academic writing (see Beach 1984 and Bereiter 1985), especially when they are evaluating their own papers. As a result, some students evaluate their own papers using very different criteria from their teachers'. These students ask questions like:

- Have I told everything I know about the topic?
- Have I followed all the rules that I learned in school about the features of acceptable academic writing?

While these can be valuable questions to ask, sometimes they are not enough, because teachers may ask different questions like:

- What is the author's purpose?
- Why is the author telling me this?
- What am I expected to believe or do when I am finished reading?

Being aware of when and how to use these three strategies is an important skill for successful academic writers, especially when evaluating their own texts.

Rationale

This set of exercises is based on the assumption that the criteria writers bring to a writing task influence the goals they set and the ways in which they go about making plans to achieve these goals. It follows that if the criteria for academic writing our students bring to a task are limited or inaccurate, both the composing process and the final product may be affected. Many students ascribe only two goals to academic writing: correct expression and information-transfer. An extensive study of writing in secondary schools by Arthur Applebee reveals that many teaching practices perpetuate these students' limited notions about the aims of academic writing. Unfortunately, such notions may not hold true in college courses where teachers often expect students to analyze information and build coherent arguments rather than parrot back facts. The three strategies described in this set of classroom exercises are meant to help students expand their images of academic

discourse. With this expanded view, as both readers and writers of academic discourse, their focus should shift from *content* to *intent*, from more superficial issues of correctness to issues of evidence, organization, tone, and purpose.

FOLLOW-UP ASSIGNMENTS

Students can practice using these three strategies in several ways. They can bring in their own MYSTERY TEXTS and ask classmates to try to guess who wrote them. Students can survey other college writers and publish a collection of the CONVENTIONAL FEATURES or rules they learned in high school about the features of correct academic prose. They should be encouraged to evaluate the wisdom and usefulness of such rules. Finally, students can evaluate each other's writing using these three strategies; they should focus on the RHETORICAL PURPOSE STRATEGY first, moving from the "big picture" to more local features.

SUGGESTED READINGS

Applebee, A. N. (1984). *Contexts for learning to write.* New Jersey: ABLEX.

Beach, R., & S. Eaton. (1984). Factors influencing self-assessing and revising by college freshmen. In R. Beach, & L. S. Bridwell (Eds.), *New directions in composition research* (pp. 149-70). New York: Guilford Press.

Bereiter, C., & M. Scardamalia. (1985). Cognitive coping strategies and the problem of inert knowledge. In S. Chipman, et al. (Eds.), *Thinking and learning skills Vol 2* (pp. 65-80). Hillsdale, NJ: Erlbaum.

Shaughnessy, M. (1977). Some needed research on writing. *College Composition and Communication 28*, 317-21.

REFERENCES

Afflerbach, P. (1985). *The influence of prior knowledge on expert readers' main idea construction processes (Importance, Prose, Verbal Reports, Hypothesis Testing, Comprehensi...* (Monograph for Outstanding Dissertation Award). Newark, DE: International Reading Association.

Althusser, L. (1971). *Lenin and philosophy and other essays* (Ben Brewster, Trans.). New York: Monthly Review Press.

Anderson, J. R. (1980). *Cognitive psychology and its implications.* San Francisco: W. H. Freedman.

Anderson, J. R. (1983). *The architecture of cognition.* Cambridge, MA: Harvard University Press.

Applebee, A. N. (1981). *Writing in the secondary school.* (Research Monograph No. 21). Urbana, IL: National Council of Teachers of English.

Applebee, A. N. (1984a). *Contexts for learning to write.* Norwood, NJ: Ablex.

Applebee, A. N. (1984b). Writing and reasoning. *Review of Educational Research, 54,* 577-596.

Applebee, A. N. (1986). Problems in process approaches: Toward a reconceptualization of process instruction. In A. R. Petrosky & D. Bartholomae (Eds.), *The teaching of writing* (pp. 95-113). Eighty-fifth Yearbook of the National Society for the Study of Education. Chicago, IL: National Society for the Study of Education.

Applebee, A. N., Durst, R. & Newell, G. (1984). The demands of school writing. In A. N. Applebee (Ed.), *Contexts for learning to write: Studies of secondary school instruction* (pp. 55-77). Norwood, NJ: Ablex.

Arnheim, R. (1954). *Visual thinking.* Berkeley, CA: University of California Press.

Ausubel, D. P. (1963). *The psychology of meaningful verbal learning.* New York: Grune & Stratton.

Baker, L. (1979). Comprehension monitoring: Identifying and coping with text confusions. *Journal of Reading Behavior, 11,* (4), 365-374.

Baker, L. & Brown, A. L. (1983). Cognitive monitoring in reading. In J. Flood (Ed.), *Understanding reading comprehension.* Newark, DE: International Reading Association.

Baker, L. & Brown, A. L. (1984). Metacognitive skills in reading. In P. D. Pearson & R. Barr, M. L. Kamil, & P. Mosenthal (Eds.), *Handbook of reading research* (pp. 353-394). New York: Longman.

Balibar, E., & Machery, P. (1981). On literature as ideological formation. In. R. Young (Ed.), *Untying the text: A post-structuralist reader* (pp. 79-99). Boston: Routledge & Kegan, Paul.

Barthes, R. (1981). Textual analysis of Poe's "Valdemar". In R. Young (Ed.), *Untying the text: A post-structuralist reader* (pp. 32-47). Boston: Routledge & Kegan, Paul.

Bartholomae, D. (1983). Writing assignments: Where writing begins. In P. L. Stock (Ed.), *Fforum*. Upper Montclair, NJ: Boynton/Cook.

Bartholomae, D. (1985). Inventing the university. In M. Rose (Ed.), *When a writer can't write: Studies in writer's block and other composing problems* (pp. 134-165). New York: Guilford Press.

Bartholomae, D. (1986). Words from afar. In A. R. Petrosky & D. Bartholomae (Eds.), *The teaching of writing* (pp. 1-7). Eighty-fifth Yearbook of the National Society for the Study of Education. Chicago, IL: National Society for the Study of Education.

Bartlett, F. C. (1932). *Remembering: A study in experimental and social psychology*. Cambridge: Cambridge University Press.

Bazerman, C. (1981). *The informed writer*. Boston: Houghton Mifflin.

Bazerman, C. (1981). What written knowledge does: Three examples of academic discourse. *Philosophy of the Social Sciences, 11*, 361-382.

Bazerman, C. (1985). Physicists reading physics: Schema-laden purposes and purpose-laden schema. *Written Communication, 2*, 3-23.

Benton, S., Glover, L., & Plake, M. (1984). Employing adjunct aids to facilitate elaboration in writing. *Research and the Teaching of English, 18*, 2.

Bereiter, C., & Bird, M. (1985). Uses of thinking aloud in identification and teaching of reading comprehension strategies. *Cognition and Instruction, 2*, 131-156.

Bereiter, C., & Scardamalia, M. (1982). From conversation to composition: The role of instruction in a developmental process. In R. Glaser (Ed.), *Advances in instructional psychology* (Vol. 2, pp. 1-64). Hillsdale, NJ: Erlbaum.

Bereiter, C., & Scardamalia, M. (1983). Schooling and the growth of intentional cognition: Helping children take charge of their own minds. In Z. Lamm (Ed.), *New Trends in education* (pp. 73-100) Tel-Aviv: Yachdev United Publishing Company.

Bereiter, C., & Scardamalia, M. (1985). Cognitive coping strategies and the problem of inert knowledge. In S. F. Chipman, J. W. Segal, & R. Glaser (Eds.), *Thinking and learning skills: Research and open questions*: (Vol. 2, pp. 65-80). Hillsdale, NJ: Erlbaum.

Bereiter, C., & Scardamalia, M. (1987). *The psychology of written communication*. Hillsdale, NJ: Erlbaum.

Berkenkotter, C., Huckin, T., & Ackerman, J. (1988). Conversation, conventions, and the writer: Case study of a student in a rhetoric Ph.D. program. *Research in the Teaching of English, 22*, 9-41.

Bitzer, Lloyd F. (1968). The rhetorical situation. *Philosophy and Rhetoric, 1* (1), 1-14.

Bizzell, P. (1982). Cognition, convention, and certainty: What we need to know about writing. *Pre/Text, 3*, 213-244.

Bizzell, P. (1982). College composition: Initiation into the academic discourse community. *Curriculum Inquiry, 12* (2), 191-207.

Bizzell, P., & Herzberg, B. (1986). Review of "What makes writing good." *College Composition and Communication, 37*, 244-247.

Bloom, B. S. (Ed.). 1956. *Taxonomy of educational objectives: Cognitive domain* (Vols. 1-2). New York: McKay.

Booth, W.C., & Gregory, M.W. (1987). *The Harper & Row Rhetoric: Writing as thinking, thinking as writing*. New York, NY: Harper & Row. 138-139.

Bracewell, R., Frederiksen, C., & Frederiksen, J. (1982). Cognitive processes in composing and comprehending discourse. *Educational Psychologist, 17*, 146-164.

Bransford, J. D. (1979). *Human cognition: Learning, understanding, and remembering*. Belmont, CA: Wadsworth.

Bransford, J. D., & McCarrell, N. S. (1974). A sketch of a cognitive approach to comprehension: Some thoughts about understanding what it means to comprehend. In W. B. Weimer & D. S. Palermo (Eds), *Cognition and the symbolic processes* (pp. 189-229). Hillsdale, NJ: Erlbaum.

Braxton, J. M., & Nordvall, R. C. (1985). Selective liberal arts colleges: Higher quality as well as higher prestige? *Journal of Higher Education, 5*, 538-554.

Bridgeman, B., & Carlson, S. B. (1984). Survey of academic writing tasks. *Written Communication, 1*, 247-280.

Bridwell, L. (1980). Revising strategies in twelfth grade students' transactional writing. *Research in the Teaching of English, 14*, 197-222.

Britton, J., Burgess, T., Martin, N., McLeod, A., & Rosen, H. (1975). *The development of writing abilities* (pp. 11-18). London: Macmillan.

Brodkey, L. (1987a). Modernism and the scene(s) of writing. *College English, 49*, 396-418.

Brodkey, L. (1987b). Writing critical ethnographic narratives. *Anthropology & Education Quarterly, 18*, 67-76.

Brown, A. L. (1980). Metacognitive development and reading. In R. J. Spiro, B. C. Bruce & W. F. Brewer (Eds.), *Theoretical issues in reading comprehension: Perspectives from cognitive psychology, linguistics, artificial intelligence, and education* (pp. 453-481). Hillsdale, NJ: Erlbaum.

Brown, A. L. (1985). Metacognition: The development of selective attention strategies for learning from texts. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and processes of reading* (pp. 501-526). Newark, DE: International Reading Association.

Brown, A. L. & Day, J. D. (1983). Macrorules for summarizing texts: The development of expertise. *Journal of Verbal Learning and Verbal Behavior, 22*(1), 1-14.

Brown, A. L., & Palincsar, A. M. (in press). Guided cooperative learning and individual knowledge acquisition. To appear in L. Resnick, (Ed.), *Cognition and instruction: issues and agendas*. Hillsdale, NJ: Erlbaum.

Brown, R. (1986). Evaluation and learning. In A. R. Petrosky & D. Bartholomae (Eds.), *The teaching of writing*. Eighty-fifth Yearbook of the National Society for the Study of Education. Chicago, IL: National Society for the Study of Education.

Bruffee, K. A. (1986). Social construction, language and the authority of knowledge: A bibliographical essay. *College English, 48*, 773-790.

Burke, K. (1941). *The philosophy of literary form: Studies in symbolic action*. Berkeley, CA: University of California Press.

Burtis, P. J., Bereiter, C., Scardamalia, M., & Tetroe, J. (1983). The development of planning in writing. In B. M. Kroll & G. Wells (Eds), *Explorations in the development of writing* (pp. 153-174). Chichester, England: John Wiley & Sons.

Chase, G. (in press). Discourse conventions and the politics of accommodating resistance in student writing. *College Composition and Communication*.

Chase, W. G. (1982). *Spatial representations of taxi drivers* (Tech. Rep. No. 6). Pittsburgh, PA: Learning Research & Development Center at The University of Pittsburgh.

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement, 20*, 37-46.

Coles, W. E., Jr. (1969). Freshman composition: The circle of unbelief. *College English, 31*, 134-142.

Coles, W. E., Jr. (1978). *The plural I*. New York: Holt, Rinehart & Winston.

Collins, A., Brown, J. S., & Newman, S. E. (in press). Cognitive apprenticeship: Teaching the craft of reading, writing and mathematics. In L. B. Resnick (Ed.), *Cognition and instruction: Issues and agendas*. Hillsdale, NJ: Erlbaum.

Consigney, S. (1974). Rhetoric and its situations. *Philosophy and Rhetoric, 7*, 175-85.

deBeaugrande, R. (1984). *Text production* (Vol. 11). Norwood, NJ: Ablex.

Doyle, W. (1983). Academic work. *Review of Educational Research, 53*, 159-199.

Dyson, A. H. (1986). Transitions and tensions: Interrelations between the drawing, talking, and dictating of young children. *Research in the Teaching of English, 20*, 379-409.

Eagleton, T. (1985). *Literary theory: An introduction*. Minneapolis, MN: University of Minnesota Press.

Elbow, P. (1981). *Writing without teachers*. New York: Oxford University Press.

Elbow, P. (1985). The shifting relationship between reading and writing. *College Composition and Communication, 36*, 283-303.

Faigley, L. (1986). Competing theories of process: A critique and a proposal. *College English, 48,* 527-542.

Faigley, L., & Witte, S. (1981). Analyzing revision. *College Composition and Communication, 32,* 400-414.

Fiske, S. T., & Linville, P. W. (1980). What does the schema concept buy us? *Personality and Social Psychology Bulletin, 6,* 543-557.

Flower, L. (1981b). Revising writer-based prose. *Journal of Basic Writing, 3,* 62-74.

Flower, L. (1987). Interpretive Acts: Cognition and the construction of discourse. *Poetics, 16,* 109-130.

Flower, L. (1988). The construction of purpose in writing and reading. *College English, 50,* 528-550.

Flower, L. (in press). Taking thought: The role of conscious processing in the making of meaning. In E. Maimon, B. Nodine, & F. O'Connor (Eds.), *Thinking, reasoning, and writing*. New York: Longman.

Flower, L. (in preparation). Cognition, context and theory building.

Flower, L., & Hayes, J. R. (1980). The cognition of discovery: Defining a rhetorical problem. *College Composition and Communication, 31,* 21-32.

Flower, L., & Hayes, J. R. (1981a). Plans that guide the composing process. In C. H. Frederiksen, & J. F. Dominic (Eds.), *Writing: The nature, development and teaching of written communication* (pp. 39-58). Hillsdale, NJ: Erlbaum.

Flower, L., & Hayes, J.R. (1981b). The pregnant pause: An inquiry into the nature of planning. *Research in the Teaching of English, 15,* 229-243.

Flower, L., & Hayes, J. R. (1981c). A cognitive process theory of writing. *College Composition and Communication, 32,* 365-387.

Flower, L., & Hayes, J.R. (1984). Images, plans and prose: The representation of meaning in writing. *Written Communication, 1,* 120-160.

Flower, L., Carey, L., & Hayes, J. (1986). *Diagnosis in revision: The experts' option* (Communications Design Center Tech. Rep.). Pittsburgh, PA: Carnegie Mellon University.

Flower, L., Hayes, J. R., Carey, L., Schriver, K., & Stratman, J. (1986). Detection, diagnosis, and the strategies of revision. *College Composition and Communication, 37,* 16-55.

Flower, L., Schriver, K. A., Carey, L., Haas, C., & Hayes, J. R. (in press). *Planning in writing: The cognition of a constructive process.* To appear in S. Witte, N. Nakadote, & R. Cherry (Eds.), *A Rhetoric of Doing*. Carbondale, IL: Southern Illinois University Press.

Foucault, M. (1980). *Power/Knowledge: Selected interviews and other writings, 1972-1977.* C. Gordon (Ed.), C. Gordon, L. Marshall, J. Mepham & K. Soper (Trans.). New York: Pantheon.

Foucault, M. (1981). The order of discourse. In R. Young (Ed.), *Untying the text: A post-structuralist reader* (pp. 48-78). Boston: Routledge & Kegan, Paul.

Frase, L. (1976). Reading performances and document design. *Proceedings of Society for Applied Learning Technology*. Washington, D.C.

Frederiksen, C. H. (1972). Effects of task-induced cognitive operations on comprehension and memory processes. In R. O. Freedle & J. B. Carroll (Eds.), *Language comprehension and the acquisition of knowledge* (pp. 211-245). New York: John Wiley & Sons.

Freedman, A., & Pringle, I. (1980). Writing in the college years: Some indices of growth. *College Composition and Communication, 31*, 311-324.

Freedman, S. W. (1979a). How characteristics of student essays influence teachers' evaluations. *Journal of Educational Psychology, 71*, 328-338.

Freedman, S. W. (1979b). Why do teachers give the grades they do? *College Composition and Communication, 30*, 162.

Freedman, S. W. (1982). Some reasons for the grades we give compositions. *English Journal, 71*, 86-89.

Freedman, S. W., Dyson, A. H., Flower, L., & Chafe, W. (1987). *Research in writing: Past, present and future* (Tech. Rep. No. 1). Berkeley, CA: University of California, Berkeley, and Carnegie Mellon University, Center for the Study of Writing at University of California, Berkeley and Carnegie Mellon.

Freire, P. (1970). *Pedagogy of the oppressed* (M. B. Ramos, Trans.). New York: Continuum.

Geertz, Clifford. (1983). *Local knowledge*. New York: Basic Books.

Gilbert, N. G., & Mulkay, M. (1984). *Opening Pandora's box: A sociological analysis of scientists' discourse*. Cambridge: Cambridge University Press.

Giroux, H. (1983). *Theory and resistance in education*. South Hadley, MA: Bergin.

Glaser, R. (in press). On the nature of expertise. *Proceedings of the In Memoriam Hermann Ebbinghous Symposium*. Elsevier-North Holland Publishers.

Glick, J. (1975). Cognitive development in cross-cultural perspective. In F. D. Horowitz (Ed.), *Review of child development research* (Vol. 4). Chicago: University of Chicago Press.

Goodlad, J. (1984). *A place called school*. New York: McGraw-Hill.

Goodnow, J. J. (1976). The nature of intelligent behavior: Questions raised by cross-cultural studies. In L. B. Resnick (Ed), *New approaches to intelligence* (pp. 168-188). Potomac, MD: Lawrence Erlbaum.

Graff, G. (1985). The university and the prevention of culture. In G. Graff & R. Gibbons (Eds.), *Criticism in the University* (pp. 62-82). Evanston, IL: Northwestern University.

Greene, S. (in preparation). *Toward a social/cognitive theory of 'reading like a writer.'* (Tech. Rep.). Berkeley, CA: University of California, Berkeley and Carnegie Mellon University, Center for the Study of Writing at University of California, Berkeley and Carnegie Mellon.

Gumperz, J. (1982). *Discourse strategies*. New York: Cambridge University Press.

Haas, C., & Flower, L. (1988). Rhetorical reading strategies and the construction of meaning. *College Composition and Communication, 39*, 167-183.

Hamilton, S. (1987, April). *Effects of elaboration on concept learning from prose.* Paper presented at the 1987 American Educational Research Association Conference, Washington, DC.

Hare, V. C. (1981). Readers' problem identification and problem-solving strategies for high- and low-knowledge comprehenders. *Journal of Reading Behavior, 13*, 359-365.

Hayes, J. R. (1981). *The compleat problem solver*. Philadelphia: Franklin Institute Press.

Hayes, J. R. (1985). Three problems in teaching general skills. In J. W. Segal, S. F.Chipman & R. Glaser (Eds.), *Thinking and learning skills: Research and open questions* (Vol. 2, pp. 391-406). Hillsdale, NJ: Erlbaum.

Hayes, J. R., & Flower, L. (1981). Writing as proble .. solving. *Visible Language, 14*, 388-389.

Hayes, J. R., Flower, L., Schriver, K., Stratman, J., & Carey, L. (1987). Cognitive processes in revision. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics: Reading, writing, and language processing*. Cambridge, England: Cambridge University Press.

Heath, S. B. (1983). *Ways with words: Language, life and work in communities*. Cambridge, England: Cambridge University Press.

Herrington, A. (1985). Writing in academic settings: A study of the contexts for writing in two college chemical engineering courses. *Research in the Teaching of English, 19*, 331-361.

Herrington, A. (1988). Teaching, writing and learning: A naturalistic study of writing in an undergraduate literature course. In Jolliffe, D. (Ed.), *Advances in writin research, Vol. 2: Writing in academic disciplines* (pp. 133-166). Norwood, NJ: Ablex.

Hillocks, G. (1986). *Research on written composition.* Urbana, IL: National Council of Teachers of English.

Huckin, T. N. (1987, March). *Surprise value in scientific discourse.* Paper presented at the Conference on College Composition and Communication, Atlanta, GA.

Hudson, R. A. (1980). *Sociolinguistics*. Cambridge: Cambridge University Press.

Hymes, D. (1972). Introduction. In C. B. Cazden, V. P. John, & D. Hymes (Eds.), *Functions of language in the classroom* (pp. xi-lvii). New York:: Teachers College Press.

Jameson, F. (1980). *The political unconsciousness*. Princeton, NJ: Princeton University Press.

Jones, B F., Palincsar, A. M., Ogle, D. S., & Carr, E. G. (1987). *Strategic teaching and learning: Cognitive instruction in the content areas*. Alexandria, VA: Association for Supervision and Curriculum Development.

Just, M., & Carpenter, P.A. *The psychology of reading and language comprehension*. New York, NY: Allyn and Bacon, 1986

Kantz, M. (1987). *Composing from textual sources: Rhetorical stances for writing syntheses*. Unpublished doctoral dissertation. Carnegie Mellon University, Pittsburgh, PA.

Kantz, M. (1982). *Reading strategies and success in synthesizing : It's what you do with them that counts*. (Tech. Rep. No. 3) Berkeley, CA: University of California, Berkeley, and Carnegie Mellon University, Center for the Study of Writing at University of California, Berkeley, and Carnegie Mellon.

Kaufer, D., Geisler, C., & Neuwirth, C. (1989). *The architecture of argument: Cross-disciplinary rhetoric*. San Diego: Harcourt Brace Jovanovich.

Kennedy, M. L. (1985). The composing process of college students writing from sources. *Written Communication, 4*, 434-456.

Kintsch, W. (1974). *The representation of meaning in memory*. Hillsdale, NJ: Erlbaum.

Kintsch, W., & van Dijk, T. (1978). Towards a model of text comprehension and production. *Psychological Review, 85*, 363-394.

Kintsch, W., & Vipond, D. (1979). Reading comprehension and readability in educational practice and psychological theory. In L. G. Nilsson (Ed.), *Perspectives in memory research* (pp. 329-365). Hillsdale, NJ: Erlbaum.

Kroll, B. M. (1978). Cognitive egocentrism and the problem of audience awareness in written discourse. *Research in the Teaching of English, 12*, 269-281.

Kucer, S. L. (1985). The making of meaning: Reading and writing as parallel processes. *Written Communication, 2*, 317-336.

Kuhn, T. S. (1970). *The structure of scientific revolution*. (2nd ed.). Chicago: University of Chicago Press.

Labov, W. (1972). *Language in the inner city* (pp. 201-254). Philadelphia: University of Pennsylvania Press.

Langer, J. A. (1984). Effects of topic knowledge on the quality and coherence of informational writing. In A. N. Applebee (Ed.), *Contexts for learning to write*. Norwood, NJ: Ablex.

Langer, J. A. (1984). Relation between levels of prior knowledge and the organization of recall. In M. Kamil & A. J. Moe (Eds.), *Perspectives in reading research and comprehension* (pp. 28-33). Washington, DC: National Reading Conference.

Langer, J. A. (1986). Reading, writing, and understanding: An analysis of the construction of meaning. *Written Communication, 3,* 219-267.

Langston, M. D. (in preparation). *A cognitive theory of invention and its application to the design of computer tools.* Dissertation. Carnegie Mellon University, Pittsburgh, PA.

Larkin, J. (1983). Understanding, problem representation and skill in physics. *Learning, cognition and college teaching.* San Francisco: Jossey-Bass.

LeFevre, Karen B. (1987). *Invention as a social act.* Carbondale: Southern Illinois University Press.

Levin, J.R. (1987). Memorable learning strategies: Powerful theory=powerful application. Paper presented at the Annual Meeting of the American Education Research Association, Washington, D.C.

Lunsford, A. (1980). The content of basic writer's essays. *College Composition and Communication, 31,* 278-290.

Lunsford, A., & Ede, L. (1986). Why write...together: A research update. *Rhetoric Review, 51,* 71-81.

Macherey, P. (1978). *A theory of literary production* (G. Wall, Trans.). Boston: Routledge & Kegan, Paul.

Macrorie, K. (1968). To be read. *English Journal, 57,* 686-692.

Mandler, J. M., & DeForest, M. (1979). Is there more than one way to recall a story? *Child Development, 50,* 886-889.

McCarthy, L. P. (1987). A stranger in strange lands: A college student writing across the curriculum. *Research in the Teaching of English, 21,* 233-265.

McCormick, K. (1985). Theory in the reader: Bleich, Holland and beyond. *College English, 47,* 836-850.

McCormick, K. (Ed.). (1989). *Expanding the repertoire: An anthology of practical approaches for the teaching of writing.* (Tech. Rep. No. 2-038-882). Berkeley, CA: Center for the Study of Writing at University of California, Berkeley, and Carnegie Mellon.

McCormick, K., & Waller, G., with L. Flower. (1987). *Reading texts: Reading, responding, writing.* Lexington, MA: D. C. Heath.

Meyer, B. J. F., Brandt, D. M., & Bluth, G. J. (1980). Use of top-level structure in text: Key for comprehension of ninth grade students. *Reading Research Quarterly, 16,* 72-103.

Meyer, B. J. F. (1982). Reading research and the composition teacher: The importance of plans. *College Composition and Communication, 33,* 34-49.

Myers, G. (1985a). The social construction of two biologists' proposals. *Written Communication, 2,* 219-245.

Myc ;. (1985b). Texts as knowledge claims: The social construction of two biologists' articles. *Social Studies of Science, 15,* 593-630.

National Assessment of Educational Progress. (1981). *Reading, thinking and writing: Results from the 1979-81 National Assessment of Reading and Literature.* Denver, CO: Education Commission of the States.

Nelson, J. (in press). *Research writing in classroom contexts.* (Tech. Rep.). Berkeley, CA: University of California, Berkeley and Carnegie Mellon University, Center for the Study of Writing at University of California, Berkeley, and Carnegie Mellon.

Nelson, J., & Hayes, J. R. (1988). *How the writing context shapes students' strategies for writing from sources.* (Tech. Rep. No. 12). Berkeley, CA: University of California, Berkeley and Carnegie Mellon University, Center for the Study of Writing at University of California, Berkeley and Carnegie Mellon.

Newell, A., & Simon, H. A. (1972). *Human problem solving.* Englewood Cliffs, NJ: Prentice-Hall, Inc.

Nickerson, R. S., Perkins, D. N., & Smith, E .E. (1985). *The teaching of thinking.* Hillsdale, NJ: Erlbaum.

Nystrand, M. (1986). *The structure of written communication: Studies in reciprocity between writers and readers.* New York: Academic Press.

Odell, L., & Goswami, D. (1985). *Writing in nonacademic settings.* New York: Methuen.

Ong, W. (1982). *Orality and literacy.* New York: Methuen.

Palincsar, A., & Brown, A. L. (1983). *Reciprocal teaching of comprehension-monitoring activities.* (Tech. Rep. No. 269). Urbana, IL: Center for the Study of Reading at the University of Illinois.

Penrose A. M., & Sitko, B. (in preparation). *Studying cognitive processes in the classroom: A sourcebook for teachers of writing.* Pittsburgh, PA: Center for the Study of Writing, Carnegie Mellon University.

Perry, W. G. (1968). *Forms of intellectual and ethical development in the college years.* New York: Holt, Rinehart & Winston.

Piaget, J. (1932). *The language and thought of the child* (M. Gabin, Trans.). New York: Harcourt Brace and Co.

Pichert, J. W. & Anderson, R. C. (1977). Taking different perspectives on a story. *Journal of Educational Psychology, 69,* 309-315.

Porter, J. E. (19c 5). Intertextuality and the discourse community. *Rhetoric Review, 5,* 34-47.

Reder, L. M. (1980). The role of elaboration in the comprehension and retention of prose: A critical review. *Review of Educational Research, 50,* 5-53.

Reder, L. M. (1979). The role of elaborations in memory for prose. *Cognitive Psychology, 11,* 221-234.

Reder, L.M., Charney, D.H. & Morgan, K.I. (1986). The role of elaborations in learning a skill from an instructional text. *Memory and Cognition, 14,* 64-78.

Richardson, R. C., Jr., Fisk, E. C., & Okun, M. A. (1983). *Literacy in the open-access college.* San Francisco, CA: Jossey-Bass.

Rohman, D. G. (1985). Pre-writing: The stage of discovery in the writing process. *College English, 47,* 620-628.

Rose, M. (1980). Rigid rules, inflexible plans, and the stifling of language: A cognitivist analysis of writer's block. *College Composition and Communication, 31,* 389-401.

Rose, M. (1984). Complexity, rigor, evolving method and the puzzle of writer's block: Thoughts on composing-process research. In M. Rose (Ed.), *When a writer can't write: Studies in writer's block and other composing-process problems* (pp. 227-260). New York: Guilford Press.

Rose, M. (1984). *Writer's block: The cognitive dimension.* Carbondale: Southern Illinois University Press.

Rose, M. (1985). The language of exclusion: Writing instruction in the university. *College English, 47,* 341-359.

Rose, M. (1988). Narrowing the mind and page: Remedial writers and cognitive reductionism. *College Composition and Communication, 39,* 267-302.

Rothkopf, E. Z.(1976). Writing to teach and reading to learn: A perspective on the psychology of written instruction. In N .L. Gage (Ed.), *The psychology of teaching methods* (pp. 91-129). Seventy-fifth Yearbook of the National Society for the Study of Education, Part I). Chicago, IL: National Society for the Study of Education.

Ruth, L., & Murphy, S. (1984). Designing topics for writing assessment: Problems of Meaning. *College Composition and Communication, 35,* 410-422.

Scardamalia, M., & Bereiter, C. (1987). Knowledge telling and knowledge transforming in written composition. In S. Rosenberg (Ed.), *Advances in applied psycholinguistics: Vol. 2: Reading, writing, and language learning* (pp. 142-175). Cambridge, England: Cambridge University Press.

Schoenfeld, A. H. (1979). Can heuristics be taught? In Lesch (Ed.), *Applied Problem Solving.* (ERIC 315-338).

Schwegler, R., & Shamoon, L. (1982). The aims and process of the research paper. *College English, 44,* 817-824.

Scribner, S. (1984). Studying working intelligence. In B. Rogoff, & J. Lave (Eds.), *Everyday cognition: Its development in social context.* Cambridge, MA: Harvard University Press.

Scribner, S., & Cole, M. (1981). *The psychology of literacy.* Cambridge, MA: Harvard University Press.

Schank, R.C., & Abelson, R.P. (1977). *Scripts, plans, goals and understanding: An inquiry into human knowledge structures*. Hillsdale, NJ: Erlbaum.

Shaughnessy, M. (1977). Some needed research in writing. *College Composition and Communication, 28*, 317-321.

Simon, H. A. (1973). The structure of ill-structured problems. *Artificial Intelligence, 4*, 181-201.

Smith, W. L., Hull, G. A., Land, R. E., Jr., Moore, M. T., Ball, C., Dunham, D. E., Hickey, L. S., & Ruzich, C. W. (1985). Some effects of varying the structure of a topic on college students' writing. *Written Communication, 2*, 73-89.

Sommers, N. I. (1980). Revision strategies of student writers and experienced adult writers. *College Composition and Communication, 31*, 378-388.

Spivey, N. N. (1984). *Discourse synthesis: Constructing texts in reading and writing* (Outstanding Dissertation Monograph Series). Newark, DE: International Reading Association.

Spivey, N. N. (1987). Construing constructivism: Reading research in the United States. *Poetics, 16*, 169-192.

Stein, V.E. (in preparation). Lives of a skill: Cognitive and academic perspectives on critical literacy.

Stewart, D. (1983). Prose with integrity: A primary objective. *College Composition and Communication, 34*, 278-283.

Sticht, T. G. (1977). Comprehending reading at work. In M. A. Just & P. A. Carpenter (Eds.),*Cognitive Processes in Comprehension* (pp. 221-246). Hillsdale, NJ: Erlbaum.

Swales, J. (1984). Research into the structure of introductions to journal articles and its application to the teaching of academic writing. In R. Williams, J. Swales, & J. Kirkman (Eds.). *Common ground: Shared interests in ESP and communications studies* (pp. 77-86). Oxford: Pergamon.

Swales, J. (1987, March). *Approaching the concept of discourse community*. Paper presented at The Convention on College Composition and Communication, Atlanta, GA.

Thoreau, H. D. (1964). In C. Bode (Ed.), *The portable Thoreau*. New York: Viking Press.

Tierney, R. J., & Pearson, P. D. (1984). Toward a composing model of reading. In J.M. Jensen (Ed.), *Composing and comprehending (pp. 33-45)*. Urbana, IL: ERIC Clearinghouse on Reading and Communication Skills and National Conference on Research in English.

Tierney, R. J., & Pearson, P. D. (1985). Learning to learn from text: A framework for improving classroom practice. In H. Singer & R. B. Ruddell (Eds.), *Theoretical models and processes of reading* (pp. 860-878). Newark DE: International Reading Association.

Tulving, E. (1972). Episodic and semantic memory. In E. Tulving, & W. Donaldson, (Eds.), *The organization of memory*. New York, NY: Academic Press.

Vatz, R. E. (1973). The myth of the rhetorical situation. *Philosophy and Rhetoric, 6*, 154-161.

Voss, J. F., & Post, T. A. (in press). On the solving of ill-structured problems. In M. T. H. Chi, R. Glaser, & M. Farr (Eds.), *The nature of expertise*. Hillsdale, NJ: Erlbaum.

Voss, J. F., Greene, T. R., Post, T. A., & Penner, B. C. (1983). Problem solving skills in the social sciences. In G. Bower (Ed.), *The psychology of learning and motivation: Advances in research and theory* (Vol. 17). New York: Academic Press.

Wagoner, S. A. (1983). Comprehension monitoring: What it is and what we know about it. *Reading Research Quarterly, 18* (3), 328-346.

Waller, G., McCormick, K., & Fowler, L. (1986). *The Lexington introduction to literature*. Lexington, MA: D.C. Heath.

Weinstein, C. E., Underwood, V. L., Wicker, F.W. & Cubberly, W. E. (1979). Cognitive learning strategies: Verbal and imaginal elaboration. In H. F. O'Neil, & C. D. Spielberger, (Eds.), *Cognitive and affective learning strategies*. New York, NY: Academic Press.

Whitney, P. (1987). Psychological theories of elaborative inferences: Implications for schema- theoretic views of comprehension. *Reading Research Quarterly, 22*, 299-309.

Winograd, P. (1984). Strategic difficulties in summarizing texts. *Reading Research Quarterly, 19*, 404-425.

Witte, S., Meyer, P., with Miller, T. (1982). *A national survey of college and university writing teachers*. (Tech. Rep. No. 4). Austin, TX: Writing Program Assessment Project.

Witte, S. (1983). Topical structure and revision: An exploratory study. *College Composition and Communication, 34*, 313-341.

Witte, S. (1987). Pre-text and composing. *College Composition and Communication, 38*, 397-425.

Witte, S., Cherry, R., & Meyer, P. (1982). The goals of freshman writing programs as perceived by a national sample of college and university writing program directors and teachers. (Tech. Rep. No. 5). Austin, TX: Writing Assessment Project, University of Texas. (ERIC Doc. No. ED 216 395).